ISCTE IUL
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Career Management, Organizational Commitment and Turnover Intention: An Empirical Study on Clinicians in Public Hospitals in China

YU Shaoxuan

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

Doctor of Management

Supervisor:
Prof. Virg ńia Trigo, Professor,
ISCTE University Institute of Lisbon

March, 2019

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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: Yushaoxuan Date:

Name: Yu Shaoxuan

作者申明

本人郑重申明：除了论文致谢中明确说明并致以谢意的部分外，所呈交的论文不包含任何他人或作者本人已用于获得任何教育机构的学位和证书而使用过的材料。同时尽我所知，除了文中特别加以标注引用的内容外，本论文不包含任何其他个人或集体已经发表或撰写的成果作品。

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Abstract

With the deepening of the medical reform in China, the unique long growth period of the medical industry and the rapid social and economic development in China lead to a significant conflict, which, in turn, increases the medical staff mobility. In fact, due to the prominent contradictions between doctors and patients and frequent incidents of malignant injuries to doctors, hospitals at all levels in China face the dilemma of doctors changing jobs or changing careers. The trend of medical staff shortage is increasingly conspicuous. With the rapid aging of the Chinese population and the increasing incidence of chronic diseases, medical and health services have become an important part of social services in China, exerting a direct impact on social stability. Therefore, paying attention to the turnover intention of medical staff has become a major issue deserving academic attention

The subjects of this study are doctors from three hospitals in Guangzhou city, one of them a 3A level hospital (the highest level) and two 2A level ones. This study explores the impact of hospital organizational career management on the turnover intention of clinicians and examines the role of career growth and organizational commitment in the impact. Results show that the three variables of organizational career management, career growth and organizational commitment are positively correlated with each other and all of them are negatively correlated with turnover intention. As for the influence path, career growth and organizational commitment play a mediating role in the impact of career management on turnover intention. In addition, career growth plays a mediating role in the impact of career management on organizational commitment.

It is also found that organizational career management, career growth, organizational commitment, and turnover intention have significant differences in some of the basic characteristics of clinicians. In terms of organizational career management, career growth, and organizational commitment, clinicians in level 3A hospitals score higher; in terms of turnover intention, clinicians in the level 2A hospitals score higher. In addition, clinicians with different characteristics such as age, marital status, and professional title have significant differences in organizational career management, career growth, organizational commitment, career growth, and turnover intention.

Results of this study provide inspiration and suggestions for policy development of public health administrative departments and hospital management especially talent retention

and offer guidance for further research. The findings of this study based on public hospitals in China may also contribute to enrich the literature in this field across the world.

Keywords: organizational career management; organizational commitment; turnover intention; public hospitals in China

JEL: M12; M54

Resumo

O aprofundamento da reforma do sistema de saúde na China, o crescimento do setor médico e ainda o rápido desenvolvimento económico e social do país têm gerado alguns conflitos conducentes à enorme rotação do pessoal médico que o setor experimenta. Em resultado dos conflitos entre médicos e doentes e dos incidentes que ocorrem com frequência, muitos deles graves, os hospitais chineses enfrentam o dilema de uma elevada rotação do pessoal médico seja por mudança de entidade patronal ou por abandono da profissão. Por outro lado, o envelhecimento da população e uma maior incidência de doenças crónicas exercem uma maior pressão sobre os serviços de saúde com impacto direto na estabilidade social o que mais contribui para agravar o problema. Por estas razões, estudar a rotação no trabalho destes profissionais é um assunto que deve merecer a atenção dos académicos e é este o propósito desta tese.

Este estudo toma como sujeitos os médicos do Hospital Liwan pertencente ao Terceiro Hospital Afiliado à Universidade Médica de Cantão, do Hospital Popular de Liwan em Cantão e do Terceiro Hospital Afiliado à Universidade Médica de Cantão, hospitais de níveis diferentes, e investiga o papel da gestão de carreiras na intenção de rotação bem como a sua relação com progressão na carreira e o envolvimento organizacional. Os resultados mostram que as variáveis gestão de carreiras, progressão na carreira e envolvimento organizacional estão positivamente correlacionadas entre si e negativamente correlacionadas com a intenção de saída da organização. Apurou-se ainda que a progressão na carreira e o envolvimento organizacional desempenham um papel mediador na intenção de saída da organização e que, por sua vez, a progressão na carreira tem também um papel mediador no impacto que a gestão de carreiras tem no envolvimento organizacional. Outros resultados demonstram que estas três variáveis e também a intenção de saída da organização apresentam diferenças significativas relativamente a algumas características dos profissionais objeto do estudo. Nos hospitais de nível 3A a gestão de carreiras, a progressão na carreira e o envolvimento organizacional apresentam valores mais elevados enquanto que no caso da intenção de saída da organização, são os hospitais de nível 2A que apresentam um maior valor. Existem também diferenças significativas entre os médicos se considerarmos características demográficas como a idade, situação conjugal e categoria profissional.

Os resultados fornecem inspiração e sugestões para a melhoria das políticas públicas no

que respeita à gestão dos hospitais com vista à retenção de talentos e sugerem vias para investigação futura. Contribuem também para enriquecer a literatura nesta área de estudo.

Palavras-chave: gestão de carreiras; envolvimento organizacional; intenção de rotação; hospitais públicos na China

JEL: M12; M54

摘要

随着中国医疗体制改革的不断深入以及社会和经济的飞速发展，医疗行业独有的行业成长缓慢期与社会经济的高速发展期形成了显著的冲突。在此冲突下，医生的流动性加大，而且在医患矛盾突出、恶性伤医事件频发的当下，中国各级别医院都面临着医生跳槽或转行的困境，人荒迹象日渐加剧。医生的离职潮将给中国医疗卫生服务带来挑战。因此，关注医生的离职倾向成为社会发展的主要课题。

本研究的调查对象为三家广州公立医院的临床医生，包括一家三甲医院及两家二甲医院，探讨医院组织职业生涯管理对临床医生离职倾向的影响，并考察职业成长和组织承诺在上述影响过程中发挥的作用。研究结果显示：组织职业生涯管理、职业成长和组织承诺三个变量互为正相关，且分别与离职倾向负相关。在传导路径上，职业成长和组织承诺在职业生涯管理影响与离职倾向之间起中介作用。同时，职业成长在职业生涯管理影响与组织承诺之间起中介作用。

本研究也发现，组织职业生涯管理、组织承诺、职业成长和离职倾向产生在临床医生的一些基本特征上存在显著差异。在组织职业生涯管理、组织承诺和职业成长得分方面，三甲医院临床医生得分更高; 在离职倾向方面，二甲医院临床医生得分更高。另外，具有不同年龄、婚姻状况、职称等基本特征的临床医生在组织职业生涯管理、组织承诺、职业成长和离职倾向上存在显著差异。

本研究结果为医疗卫生主管部门的政策制定和医院管理特别是人才挽留提供了启示和建议。本研究源自中国公立医院的研究结果也丰富了国际上这个领域的文献。

关键词:组织职业生涯管理；组织承诺；离职倾向；中国公立医院

JEL: M12; M54

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In the twinkling of an eye, my six-year doctoral study is coming to the end. The ignorance and excitement of me upon enrolment in 2013 is still vivid to me. This unforgettable period of learning will be a memorable memory in my lifetime. On the occasion of the completion of my thesis, I would like to express my sincere gratitude and best wishes to all those who have always given me support, encouragement and assistance.

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白驹过隙，时光荏苒。六年的博士学习生涯即将划上句号。2013 年入学时的懵懂和激动，仿佛还在昨天。这段难忘的学习时光，将是我铭记一生的美好的记忆。值此论文完成之际，我谨向一直以来给予我关心、鼓励、帮助的所有人表示我最真挚的感谢和祝愿。

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Chapter 1: Introduction

1.1 Research background

1.1.1 Medical service system in China

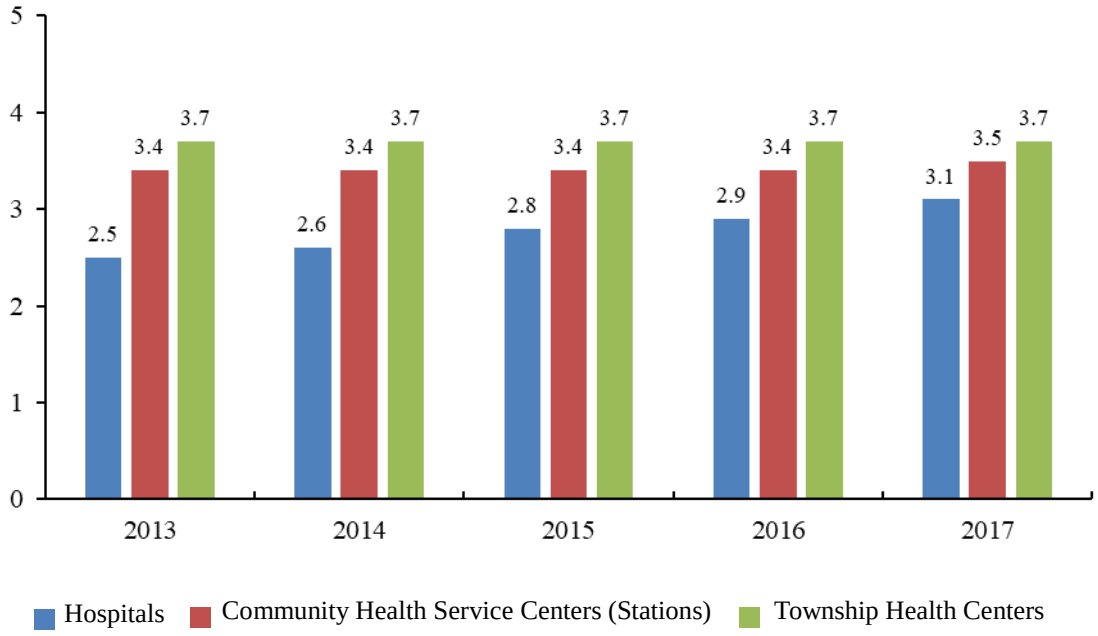
With the rapid aging of the Chinese population and the increasing incidence of chronic diseases, medical and health services have become an important part of social services in China, exerting a direct impact on social stability. Therefore, paying attention to the turnover intention of medical staff has become a major issue of social development (Huang, Tang, Pan, & Wang, 2013; Yang, 2013; Yu, 2017; Zheng, 2017; Bi, 2018; Wu, 2018). The focus of medical staff turnover intention should be its root causes and measures to reduce it. Existing research studies examine the turnover intention of medical staff from the four aspects of social macro environment, occupational remuneration and welfare, occupational environment and personal social value. In addition, some scholars start to pay attention to the importance of career planning of young doctors and believe that effective career management is conducive to the planning and management of talents in medical institutions (Hou, Zhang, Li, & Xu, 2013).

At present, China has established a medical and health service system covering urban and rural areas consisting of hospitals, primary-level health care institutions, and professional public health institutions, as pointed out in the National Medical and Health Service System Planning (2015~2020) (No. 14 Document in 2015 issued by the General Office of the State Council). In 2017, the total number of medical institutions in China reached 986,600. Among them, there are 31,000 hospitals, 933,000 primary-level health care institutions, and 19,900 professional public health institutions. Among the hospitals, there are 12,300 public hospitals and 18,700 private hospitals. From the perspective of hospital levels, there are 2,300 tertiary hospitals (including 1,400 level 3A hospitals), 8,400 secondary hospitals, 10,100 primary hospitals, and 10,200 ungraded hospitals. Among the primary-level health care institutions, there are 34,700 community health service centers (stations), 36,600 township health centers, 211,600 clinics and Infirmaries, 632,100 village clinics, and 120,400 government-funded primary-level health care institutions (as shown in Figure 1-1).

Although the total number of medical institutions in China is increasing, in 2017, the

number of beds in China's medical institutions was 7.94 million, and the growth rate decreased by 0.9% compared with that in 2013 (Figure 1-2). From 2013 to 2017, the outpatient volume in China's medical institutions increased from 7.31 billion person-times to 8.18 billion person-times (Figure 1-3), with a slow average annual growth rate of 1.74%.

Figure 1-1 Amount of medical institutions in China from 2013 to 2017 (unit of measurement: 10,000)



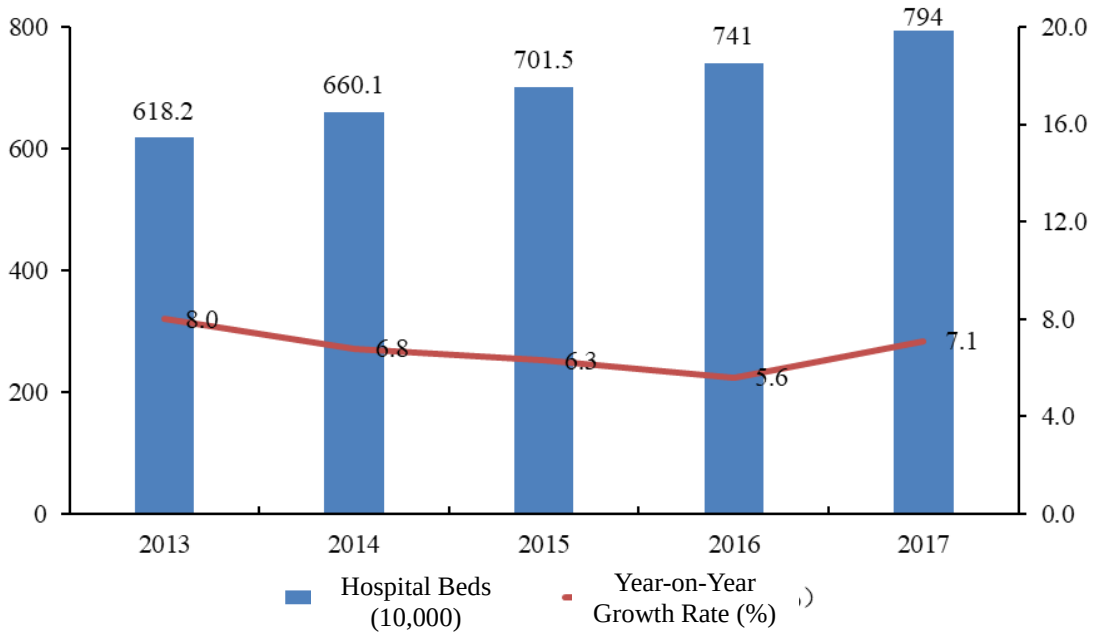
Source: Statistical Bulletin of Health and Family Planning in China (2013~2017)

On the whole, China is still faced with problems of insufficient medical and health resources, low medical service quality, unreasonable medical resource structure and distribution, fragmented medical service system, and unreasonable expansion in size of some public hospitals, as pointed out in the National Medical and Health Service System Planning (2015~2020) (No. 14 Document in 2015 issued by the General Office of the State Council).

China's medical and health service system mainly consists of hospitals, primary-level health care institutions, and professional public health institutions, as pointed out in the National Medical and Health Service System Planning (2015~2020) (No. 14 Document in 2015 issued by the General Office of the State Council). The hospitals are divided into public hospitals and privately-run hospitals. Among them, public hospitals are sub-divided into government-run hospitals (including county-level hospitals, municipal hospitals, provincial hospitals, and ministerial hospitals) and other public hospitals (mainly including military hospitals, and hospitals of state-owned and collective enterprises). Primary-level health care institutions are those below the county level and are divided into public institutions and non-government institutions. Professional public health institutions are divided into

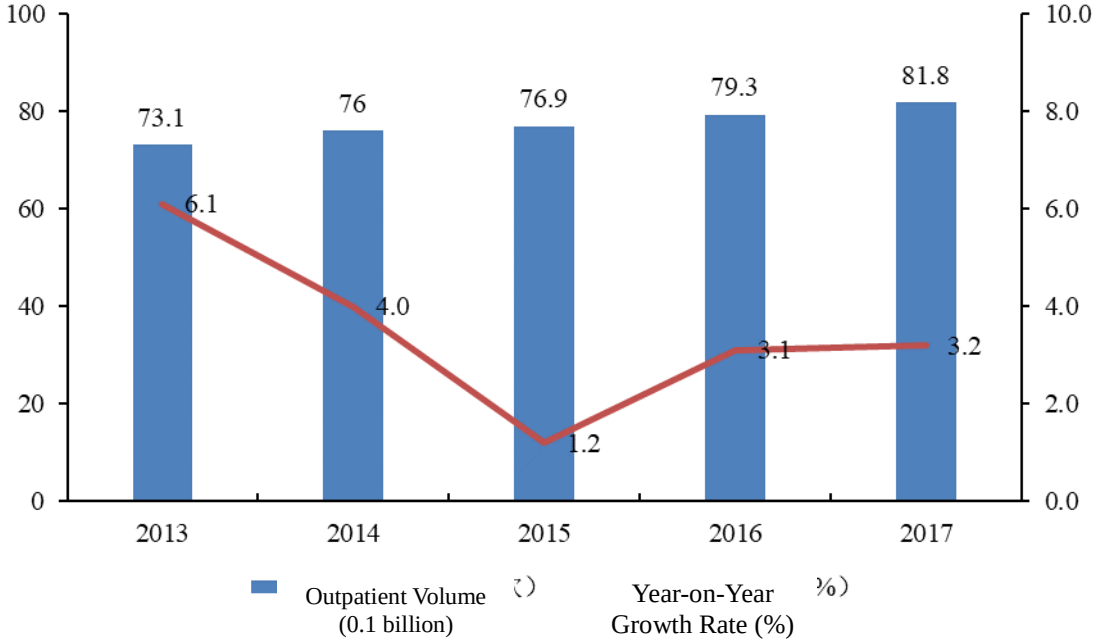
government-run professional public health institutions and other professional public health institutions (mainly including professional public health institutions run by state-owned and collective enterprises and institutions). According to different levels of jurisdiction, the government-run professional public health institutions are divided into county-level, municipal, provincial and ministerial ones (National Medical and Health Service System Planning (2015~2020)) (see Figure 1-4).

Figure 1-2 Hospital beds in China's medical institutions and growth rate from 2013 to 2017



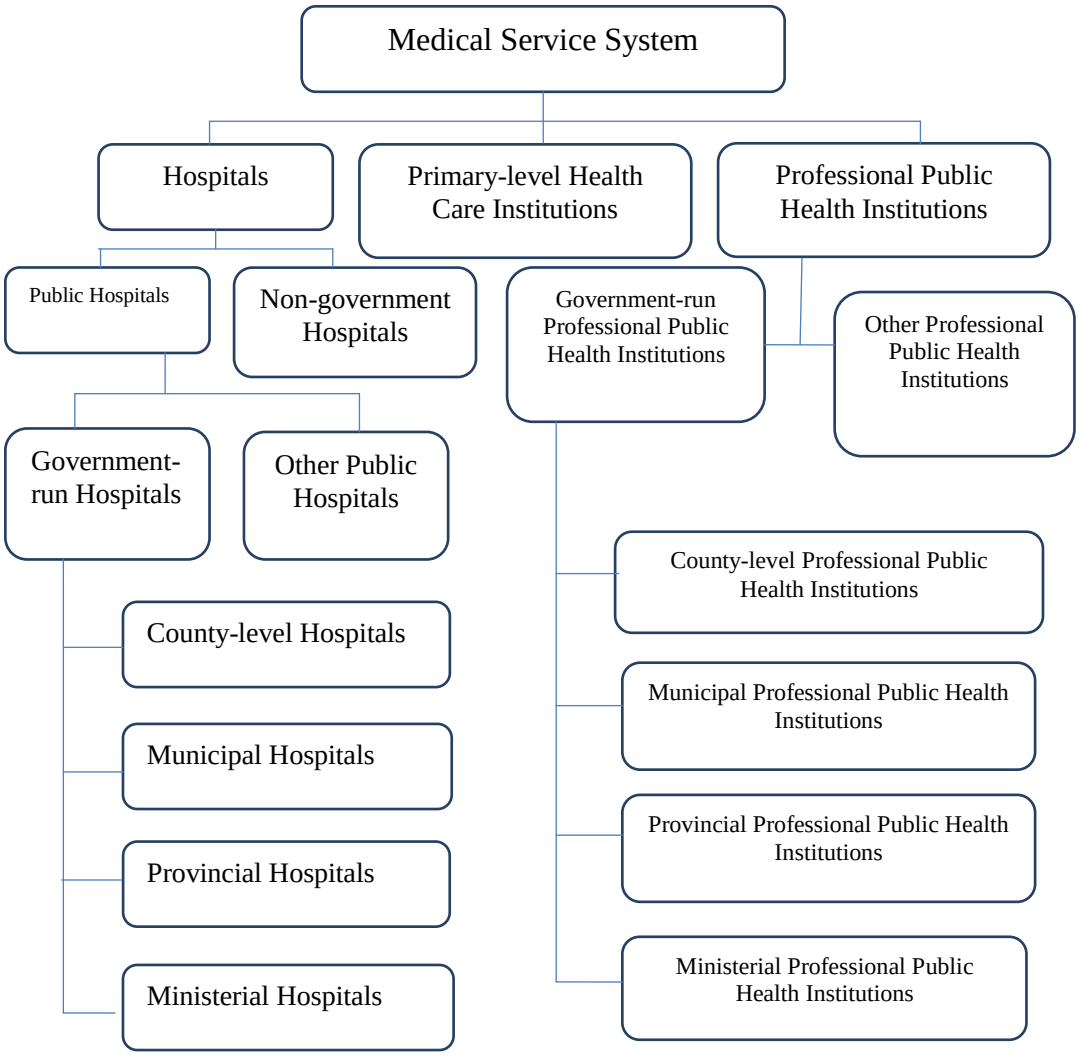
Source: Statistical Bulletin of Health and Family Planning in China (2013~2017)

Figure 1-3 Outpatient volume in China's medical institutions and growth rate from 2013 to 2017



Source: Statistical Bulletin of Health and Family Planning in China (2013~2017)

Figure 1-4 Structure of medical and health service institutions in China[1]



Source: National Medical and Health Service System Planning (2015~2020) (No. 14)

Based on the structure of medical and health service institutions in China, and according to the Measures for the Administration of Hospital Grade (Ministry of Health of China, 1989), hospitals across China are assessed by their functions, equipment and technical strength regardless of their background and ownership. Hospitals are classified into three grades, which are further subdivided into three subsidiary levels: A, B and C (see Figure 1-5). In addition, one special level - 3AAA - is reserved for the most specialized hospitals. This system is hence made up of three grades and ten levels. The primary hospitals (with fewer than 100 beds) are grassroots hospitals and health centers that provide prevention, medical care, health care and rehabilitation services directly to communities with a certain population.

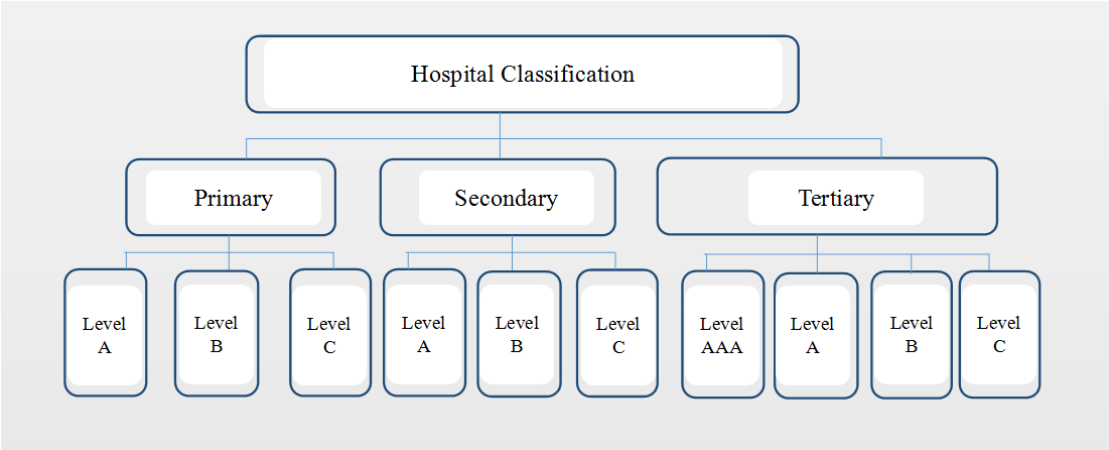
[1]National Medical and Health Service System Planning (2015~2020) (No. 14 Document in 2015 issued by the General Office of the State Council)

Their main functions are to provide primary prevention directly to the population, manage patients with frequently-occurring diseases and common diseases in the community, make correct referrals for patients with difficult and serious diseases, and assist higher-level hospitals to rationally divert the patients. Secondary hospitals (with 101 to 500 beds) are regional hospitals that provide general medical and health services to a number of communities and undertake certain teaching and research tasks. Their main functions are to participate in the monitoring of high-risk groups, receive primary hospital referrals, offer technical guidance to primary hospitals, and conduct teaching and research to some extent. Tertiary hospitals (with more than 501 beds) are cross-regional hospitals that provide high-level specialist health services and perform higher education and research tasks to several regions. Their main functions are to provide specialist medical services (including particular specialties), solve critical and difficult diseases, receive secondary hospital referrals, offer business and technical guidance to lower level hospitals, help train talents for lower-level hospitals, complete the training of various senior medical professionals, undertake provincial or national scientific research projects, and take part in and offer guidance to the prevention work of the primary and secondary hospitals. Under the planning and guidance of the health administrative department, a two-way referral system and a level-by-level technical guidance relationship should be established and improved among the primary, secondary and tertiary hospitals. In practice, the primary hospitals are not divided into levels of A, B, and C.

The classification of hospital grades is based on a score of 1,000 according to the technical strength, management level, equipment conditions and scientific research capabilities of the hospitals (Standard for the Administration of Hospital Grade, Ministry of Health of China, 1989). The assessment of the hospital grade is carried out according to the relevant hospital evaluation criteria. For example, the assessment of secondary hospitals is based on the hospital's functional tasks, services offered, patient safety, medical quality safety management and continuous improvement, nursing quality management and continuous improvement, and hospital management. To be accredited as secondary hospitals, the candidate hospitals should pass no less than 90% of grade C requirements, no less than 60% of the grade B requirements, no less than 20% of the grade A requirements. In addition, to be accredited as level A secondary hospitals or level 2A hospitals, the candidate hospitals must pass no less than 100% of grade C requirements, no less than 70% of the grade B requirements, no less than 20% of the grade A requirements among the 33 core articles (Accreditation Standard for General Secondary Hospitals (2012 Edition) (No. 2 Document in

2012 issued by the Ministry of Health), Implementing Regulations of the Accreditation Standard for General Secondary Hospitals (2012 Edition) (No. 57 Document in 2012 issued by the General Office of the Ministry of Health)). The level 2A hospitals have the greatest comprehensive strength among the secondary hospitals.

Figure 1-5 Hierarchical hospital management model in China



1.1.2 Occupational characteristics of clinicians

Clinicians are characterized with heavy social responsibility, extensive service contents, long growth cycle, high occupational risk, and fast knowledge update (Liang, Chen, & Zhong, 2003; Xu, Wang, & Wang, 2004; Li, Hu, & Feng, 2007; Yan, 2008; Qian, Qu, Qiao, Luo, & Xu, 2009; Men, 2010; Xiao, 2015). The social responsibility of clinicians is mainly reflected on medical ethics. Good social responsibility is the key to solving medical accidents and disputes between doctors and patients. In order to achieve a harmonious relationship between doctors and patients, clinicians need to have a high degree of social responsibility and a clear assessment of their responsibilities (Lu, Wang, Gao, & Liu, 2018).

Service contents of the clinicians generally include basic common sense, medical skills, medical quality, in-depth understanding of patients, handling of doctor-patient relationship, doctor-patient communication skills, patient reception skills, service etiquette, and service language skills (Chen, 2004).The extensive service contents prompt the clinicians to clearly identify the service needs at all times, constantly update the medical service concept and medical care skills, resulting in greater psychological stress. It is universally acknowledged that clinicians have a long growth cycle. For example, general surgeons need to participate in the rotation training, further education, and inter-hospital exchanges. In the growth of general surgeons, it is necessary to fully consider the factors of rotation training, clinical teachers,

further education and training, and inter-hospital technical exchanges in order to promote the healthy growth of surgeons. Otherwise, the hospitals will be likely to face severe turnover of general surgeons (Zhang, Wu, Chen, Gao, Zhao, & Zhang, 2016).

In medical practice, the clinicians will face medical limitation risk (Mei, 2013), safety risk (Zhang, Chen, Weng, Shu, & Zhao, 2009; Yuan, Hu, & Zhao, 2015), practicing development risk (Li, 2010; Kan, 2015), low salary risk (Sun, Yin, Huang, Yu, Zhao, & Li, 2016), multi-site practice risk (Jia, 2016; Liu, 2017), occupational disease risk (Lu, 1989; Luo, Xu, Wang, & Chen, 2016), "stigmatization" risk (Wu, 2017),risk of "scolded" (Chen, 2007; Yu, Feng, & Shi, 2016), risk of unfair treatment in doctor-patient disputes (Zhang, 2010; Wang, Wang, Yuan, He, & Zhang, 2014; Li, 2016), and legal fairness risk (Shen, 2004; Shi, 2014).The above-mentioned occupational characteristics possessed by medical staff usually cause high pressure on medical staff (Dang, Cao, Sun, Qin, Zhang, & Zhao, 2010; Zhang, 2012; Yuan Li, 2016), which leads to adverse consequences such as high divorce rate, drug abuse, alcohol abuse, illness, and death (Han, 2000; Liang, 2007; Liu, 2009; Wang, Kong, & Yan, 2010; Ou, 2011; Zhang, Guo, & Zhang, 2013; Yuan & Zhao, 2016; Zhang, Xu, Liu, & Xu, 2018).

In 2015, China issued the Guiding Opinions on Promoting the Construction of Hierarchical Diagnosis and Treatment System (No. 70 Document in 2015 issued by the General Office of the State Council) to guide local governments to promote the construction of hierarchical diagnosis and treatment systems in line with the national conditions of China in accordance with the principles of people-orientation, wishes of the masses, coordination between urban and rural areas, and innovative mechanisms, with the focus on improving the ability of primary medical services, taking the diagnosis and treatment of common diseases, frequently-occurring diseases and chronic diseases as a breakthrough, improving the service network, operation mechanism and incentive mechanism, guiding the sinking of high-quality medical resources to primary level medical institutions, forming the hierarchical treatment model featuring initial diagnosis at grassroots level, two-way referral, differentiation between acute and chronic diseases and cooperation among high-level and low-level medical institutions, so as to effectively promote the fair access to basic medical and health services. The construction of the hierarchical diagnosis and treatment system is intended to rationally allocate medical resources and promote the equalization of basic medical and health services. It is of great significance for promoting the long-term healthy development of medical and health care, improving people's health, and ensuring and improving people's livelihood。

With the advancement of China's hierarchical diagnosis and treatment system, its total health expenditure has increased. In 2017, China's total health expenditure reached 5,159.88 billion yuan. Among them, government health expenditure was 155.13 billion yuan (30.1%), social health expenditure was 2120.68 billion yuan (41.1%), and individual health expenditure was 14874.80 billion yuan (28.8%). The total per capita health expenditure was 3712.2 yuan, and the total health expenditure accounted for 6.2% of GDP. In 2017, China's fiscal health expenditure budget exceeded by 1.4 trillion, which was 4.4 times higher than that of 2008 before the start of the medical reform, and 5.1% higher than the expenditure in 2016 (Ministry of Finance of China, 2017). As for China's fiscal health expenditure structure, some are invested in the construction of primary medical institutions, which is intended to strengthen the grassroots medical institutions to establish a hierarchical diagnosis and treatment system, and some are invested in urban and rural resident medical insurance to reduce their financial burden. The fundamental goal of increasing financial investment on a large scale is to solve the problem of "difficult access to quality medical services and expensive medical bills" for urban and rural residents.

Under the current medical system in China, although the average daily responsible patient visits and average daily responsible hospitalization bed days of Chinese doctors are decreasing, the situation is still not optimistic and the pressure on medical personnel is still very high. The medical treatment volume and inpatient volume have been on the increase year by year. The rapid expansion of tertiary hospitals in recent years has created three siphon effects on doctors, patients and medical expenses. For example, in 2017, the medical treatment volume of tertiary hospitals in China was 490 million more than that in 2013 and 1.51 billion more than that of primary hospitals in 2017. In 2017, the inpatient volume of tertiary hospitals in China was 34.96 million more than that in 2013, and 72.27 million more compared with that of primary hospitals in 2017 (see Table 1-1 and Table 1-2). This siphon effect has intensified the plight of "difficult access to medical service and expensive medical bills". However, from 2013 to 2017, the number of average daily responsible patient visits for doctors in China's tertiary hospitals decreased from 8.3 person times in 2013 to 7.9 person times in 2017; the number of average daily responsible patient visits for doctors in China's secondary hospitals decreased from 6.9 person times in 2013 to 6.8 person times in 2017; the number of average daily responsible patient visits for doctors in China's primary hospitals decreased from 6.5 person times in 2013 to 5.7 person times in 2017 (Table 1-3) Statistical Bulletin of Health and Family Planning in China (2013~2017).On the whole, the number of

average daily responsible patient visits for doctors in China has a slight decline, but the pressure is still relatively high. In terms of the average daily responsible hospitalization bed days for doctors, from 2013 to 2017, the amount of average daily responsible hospitalization bed days for doctors in China's tertiary hospitals decreased from 2.8 bed days in 2013 to 2.6 bed days in 2017; the amount remained 2.7 from 2013 to 2017 for doctors in secondary hospitals; and the amount of average daily responsible hospitalization bed days for doctors in China's primary hospitals increased from 1.8 bed days in 2013 to 1.9 bed days in 2017 (Table 1-4), which can be seen that from 2013 to 2017 the average daily responsible hospitalization bed days were relatively high in primary and secondary hospitals.

Table 1-1 Medical treatment volume in Chinese hospitals from 2013 to 2017 (unit of measurement: 100 million person-times)

	2013	**2014**	**2015**	**2016**	**2017**
Tertiary Hospitals	12.4	14	15	16.3	17.3
Secondary Hospitals	10.9	11.5	11.7	12.2	12.7
Primary Hospitals	1.8	1.8	2.1	2.2	2.2

Source: Statistical Bulletin of Health and Family Planning in China (2013~2017)

Table 1-2 Inpatient volume in Chinese hospitals from 2013 to 2017 (unit of measurement: ten thousand persons)

	2013	**2014**	**2015**	**2016**	**2017**
Tertiary Hospitals	5450	6291	6829	7686	8396
Secondary Hospitals	6621	7006	7121	7570	8006
Primary Hospitals	729	798	965	1039	1169

Source: Statistical Bulletin of Health and Family Planning in China (2013~2017)

Table 1-3 Average daily responsible patient visits for Chinese doctors from 2013 to 2017

	2013	**2014**	**2015**	**2016**	**2017**
Tertiary Hospitals	8.3	8.4	8.1	8.1	7.9
Secondary Hospitals	6.9	7.2	7	6.9	6.8
Primary Hospitals	6.5	6.5	6.1	6.1	5.7

Source: Statistical Bulletin of Health and Family Planning in China (2013~2017)

Table 1-4 Average daily responsible hospitalization bed Days for Chinese doctors from 2013 to 2017

	2013	2014	2015	2016	2017
Tertiary Hospitals	2.8	2.8	2.7	2.7	2.6
Secondary Hospitals	2.7	2.7	2.6	2.7	2.7
Primary Hospitals	1.8	1.9	1.9	1.9	1.9

Source: Statistical Bulletin of Health and Family Planning in China (2013~2017)

In fact, the work pressure of medical staff determined by their occupational characteristics not only affects their physical and mental health, but also their job performance, leading to a decline in work enthusiasm, which ultimately leads to the turnover or change of career. Therefore, it is a sustainable research topic to study the turnover intention of medical staff from the perspective of physical status, psychological status and development potential (Zhang, 2010; Xue, Yin, Huang, Meng, Ren, & Chen, et al., 2012; Huang, Yin, Yu, & Qiu, 2014; Gu, Yang, Gu, & Tang, 2017; Zhang & Wang, 2018). It is also an eternal and necessary research topic.

1.1.3 Turnover of clinicians

The fierce competition in modern society has highlighted the competition of talents, and the overall medical service level of a modern country is largely determined by the capability of its talents. With the continuous deepening of China's medical system reform and its rapid social and economic development, the period for the growth and maturity of the medical staff appears to be longer than others. The last-generation medical staff regarded medicine as a career, while currently many of them regard it as an occupation, or more accurately, a means of livelihood. The unique long growth period of the medical industry and the rapid social and economic development lead to a significant conflict, which, in turn, increases the medical staff mobility. Experts of the Cardiothoracic Surgery Department of the Nanjing Military District General Hospital led the whole group of doctors and nurses to collectively join the Nanjing Hospital of Traditional Chinese Medicine, showing that the competition for talents among large hospitals has entered the "Warring States" era (Xinhua Daily, 2018), and the mobility of medical personnel has accelerated. Chinese young doctors leave the hospital for reasons such as difficult promotion, low income, and tense doctor-patient relationship (China Medical Tribune, 2017). There are problems of high staff turnover and difficult recruitment in

nurses, medical emergency physicians, psychiatrists, pediatricians, gynecologists and other medical personnel in various disciplines (Chen, Zhong, Nie, Hua, & Wang, 2014; Guo, 2017; Zhu & Qin, 2018). In 2001, the turnover rate of nurses in 696 tertiary hospitals in China reached 5.8%. Through regional horizontal comparison, the turnover rate of nurses in some regions was as high as 12% (Ministry of Health of China, 2011). In 2014, China's medical emergency institutions faced problems of difficulties in doctor recruitment, high brain drain rate, imperfect first-aid network construction, and lack of training of medical ambulance personnel (Economic Information Daily, 2014). Although the Chinese government at all levels continues to increase input in the development of 120 medical emergency institutions, there are still prominent problems such as high turnover rate of first-aid physicians in China's urban and rural areas, lack of first-aid equipment, and delays in the construction of first-aid sites (Gu, 2009; Li, Xiao & Wang, 2013; Xiang, Yu, Chen, Yang Wang, & Weng, 2017; Gu & Lu, 2015; Chen, Hao, & Gui, 2017). The first-aid medical team faces the contradictory "three highs and three lows", namely, high recruitment requirement, high risk, high labor intensity, low income, low promotion opportunities, and low potential for future development. The turnover rate of first-aid physicians is high, the first-aid services in rural areas are yet to be developed, the training of medical ambulance men is severely insufficient, and first-aid institutions in some areas are encountering "labor shortage" (Economic Information Daily, 2018).

An occupational survey of regional medical practitioners reveals that 40% of doctors have turnover intention. In 2014, the Liaoning Medical Doctor Association issued the Investigation Report on the Occupational Stress, Occupational Risk, Occupational Satisfaction and Occupational Burnout of Medical Practitioners in Liaoning Province which pointed out that more than half of the doctors lacked a sense of accomplishment in their work, 51.6% of the doctors had night shifts, 41.4% of the doctors had turnover intention, more than 30% of the doctors had been infected, nearly 30% of the doctors had problems in their family life, one quarter of the doctors had poor psychological status, and one-fifth of them had to bear overloaded work (Liaoning Medical Doctor Association, 2014). In March 2014, the Chinese Hospital Association selected 86 county-level public hospitals selected as research objects to analyze the mobility of the medical staff of the 86 hospitals from 2008 to 2012 and found that the annual average number of outpatient and emergency patients in county-level public hospitals increased from 201,000 to 318,000 from 2008 to 2012, and the average number of hospitalized patients increased from 16,000 to 26,000. During this period, 9,392 medical staff flowed out, with an annual average of 20 to 30 staff flowed out for each hospital.

Most of them are young clinicians with medium-grade professional titles, accounting for 76.6% of the total brain drain. It can be seen that the staff turnover in county-level hospitals is significant, and the number of professional and technical medical personnel in more than 60% of county-level public hospitals is insufficient to meet the public demands for medical services. In fact, due to the prominent contradictions between doctors and patients and frequent incidents of malignant injuries to doctors, hospitals of all levels in China are faced with the dilemma of doctors changing jobs or changing careers. The trend of medical staff shortage is increasingly prominent (Chinese Hospital Association, 2014).

1.1.4 Necessity to strengthen career management of medical staff

The core of career management is the comprehensive development of employees and the common progress of the organization, which is an important part of modern human resource management. The biggest advantage of doctors' career management in public or private hospitals is that doctors' appeal for their career development is closely connected with the long-term development of the hospital, which can improve the overall quality of the doctors and thus enhance the core competitiveness of the hospital (Men, 2010).The turnover of clinicians mainly lies in four aspects: social macro environment, occupational compensation and welfare, occupational environment and individual social value (Lu & Han, 2006; Meng & Wang, 2007; Sun, Wang, Wang, Meng, Zhu, & Ge, 2014; Mo, Xu, Luo, & Gai, 2015). Since the macro factors such as society, salary, and occupational environment cannot be changed in the near future, it is found that more research has begun to focus on the social value of medical staff (Chen, Wang, Yu, Sun, Gao, & Zhang, et al., 2016; Jin & Li, 2017; Lin, 2018). The social value of hospital personnel is mainly reflected by the career planning of medical staff (Yang, Gen, & Zhang, 2010; Zhu, Zhu, & Jiang, 2016; Wang, Wei, Meng, Wang, Xie, & Shi, et al., 2017). Focusing on the career management of clinicians is conducive to the coordinated development between medical institutions and doctors (Hou, Zhang, Li, & Xu, 2013), realization of doctors' self-value, long term development of the hospital (Wang, 2014), and formation of occupational outlook of the doctors and can guide them to correctly face the difficulties and problems encountered in medical practice. It can also help build confidence for their good career development in the future, strengthening their sense of belonging, improving their loyalty to the hospital, promoting their individual job performance and organizational performance, thus stabilizing the current medical staff team of the hospital and offering quality medical services to the general public (Hou, Zhang, Li, & Xu, 2013; Wang, Sun, Guan, Nie, Zhang, & Han, 2015).

1.1.5 Research questions

In view of the current resignation tide, the hospital's strengthening of organizational career management may be a viable way to reduce the turnover intention of clinicians. Organizational career management is a management method, which is mainly implemented by the organization. The purpose is to develop the working potential of the employees, retain the employees, and enable them to achieve self-fulfillment (Long, Fang, & Ling, 2002).

Organizational career management may reduce the turnover intention from two aspects, namely, the career growth dimension and the emotional dimension. On the one hand, organizational career management enhances the career growth of clinicians by providing career information and learning opportunities, thereby reducing turnover intention (Zhang, 2016). On the other hand, organizational career management, as a help to clinicians by the hospital, will increase the emotional dependence of clinicians on hospitals, thereby reducing turnover intention (Hao, 2016). In addition, individual characteristics are important factors affecting the above variables. Different individual characteristics will affect the performance of each variable, which in turn affects the relationship between the variables (Zhou, 2016).

Therefore, the core research questions of this study are as follows:

1) Are there differences in the turnover intention of clinicians in different levels of hospitals?

2) What is the relationship between career management, career growth, organizational commitment and turnover intention of clinicians? In particular, do career growth and organizational commitment play a mediating role in the impact of career management on turnover intention.

1.2 Research purpose and research significance

The purpose and significance of this research are as follows.

1.2.1 Research purpose

At present, there are many problems in the development of medical staff in China. For example, the turnover rate is high (Zhang, 2010), it is difficult to recruit doctors (Jiang, 2011; Huang, 2018), and there is a huge talent gap in primary-level medical institutions (Zhang, 2012; Qiu, Cao, & Wang, 2014; Zhang, Zhu, Wang, Chen, Bao, & Fan, 2018). In 2014, more

than ten city-level large hospitals were unable to recruit sufficient doctors, nurses, and technicians (Yancheng Evening News, 2014). From 2012 to 2013, nearly 40% of medical staff considered quitting medical practice because of the increasing violent injury incidents on medical staff (Medical Maintenance Forum, 2013). There is a huge talent gap in primary-level medical institutions. In 2011, there were a total of 1.126 million rural doctors and health workers, but they had to serve about 660,000 village clinics (China Youth Daily, 2012). Among the medical students surveyed in 2012, 87.5% of the students chose the municipality directly under the central government as well as the coastal provincial capitals (37.9%), and the percentages of students who chose to go to the primary-level medical institutions in coastal, middle and western parts were all less than 5% (People's Daily, 2012). 82.08% of medical staff absolutely prevent their children from studying medicine (Southern Metropolis Daily, 2013). The medical profession that was once considered to be an iron rice bowl (secure job) is now gradually less attractive. In addition, as the pressure of the occupation is increasingly high, and its social status is deteriorating, it is normal that medical staff to choose to escape. It is not exaggerated that more than 40% of doctors want to quit the job. After more than a decade of medical reform, the turnover of medical staff has become a normal state (Gai, Zhang, Xie, & Yang, 2013; Xie & Wang 2015; Shi, He, Liang, Wan, Zhang, & Deng, 2015; Feng, Liu, Guo, Feng, & Dong, 2016; Zhong, 2016; Xia & Gao, 2018).

The existing studies mainly analyze the turnover intention of different medical staff from four aspects: individual factors, organizational management factors, individual-organization matching factors, and external environment factors (Huang, Tang, Pan, & Wang, 2013; Zhao, Han, Ma, Xu, Wang, & Du, et al., 2013). 2013; Su, 2014; Li, Zhou, Duan, Liu, Zhang, & Fan, 2015; Chen, Yin, Jia, Zheng, Zhu, & Qin, et al., 2015; Yang, 2017).The research objects of the studies are mainly the medical staff of tertiary hospitals, county hospitals, township hospitals and primary-level medical institutions (Pang, 2014; Liu, 2014; Yang, 2015; Xiao, 2016; Zheng, 2016; Hu, 2016; Feng, 2017; Bi, 2017). Most scholars propose to lower the turnover intention by improving the working environment, establishing a harmonious team relationship, sharing occupational achievements, tracking and evaluation after turnover (Ju, 2006; Meng & Wang, 2007; Zhou & Yang, 2011; Chen, 2014; Tian & Yang, 2016; Feng, 2017). Fewer studies focus on the level 2A hospitals with more severe turnover intention, and there are fewer studies on reducing the turnover intention of hospital medical staff from the perspective of career planning. In light of the current extreme imbalance of medical resources distribution, it is especially important to study the turnover rate of medical staff in the level 2A hospitals.

Therefore, with the medical staff of a level 2A hospital in Guangzhou as the research object, this study intends to use the empirical research method to analyze the influencing factors of the turnover intention of medical staff in level 2A hospitals, and, on this basis, discuss the relationship between medical staff turnover intention and effectiveness of career management, and even the transmission mechanism between the two, and how to carry out the career management of clinicians in the grassroots level 2A hospital. The thesis is designed to offer suggestions to hospitals in training, developing, retaining, and using high-quality medical staff to bridge the gap of such research in China's medical industry.

1.2.2 Research significance

The research significance of this thesis is as follows:

(1) This thesis is designed to help understand the current situation and problems of the career management of medical staff in China's level 2A hospitals, reflect the working conditions of different medical personnel and their true inner feelings of the profession, and reveal the working status of medical staff to medical management institutions, medical institutions and patients in China so that they can understand the characteristics of medical staff in a more comprehensive, systematic, fair and impartial manner, which can help enhance understanding and communication between doctors and patients.

(2) Based on the organizational commitment and career management theory, the thesis explores the empirical relationship among the turnover intention, organizational commitment and career management of medical staff in level 2A hospitals in China and enriches the solutions the medical staff turnover intention from the perspective of career planning optimization.

(3) This study intends to find out the influencing factors of turnover intention of medical staff in China's level 2A hospitals and the relationship between the turnover intention and effectiveness of career management and proposes to alleviate the turnover intention from the effectiveness of medical staff career management. It will help medical institutions administrators to form effective incentive mechanism and make career management planning and decision-making for medical staff, establish good organizational commitment and targeted career planning management mechanisms for medical staff, and form a level 2A hospital medical staff team with high job satisfaction, low turnover rate and high stability, with a view to improving the level and quality of medical and health services in China.

1.2.3 Thesis framework

The thesis structure is as follows:

Chapter 1: Introduction. It mainly expounds China's medical service system and the occupational characteristics of medical staff, and on this basis clarifies the importance of studying career management in level 2A hospitals, and then proposes the research purpose, research significance and research framework of this thesis based on the actual background.

Chapter 2: Literature review, theoretical basis and research hypotheses. Firstly, it comprehensively reviews the connotation of career management, career growth, organizational commitment and turnover intention, relevant classical theories and the status quo of relevant research in China, as well as the structural dimensions and measurement methods of the three concepts. Secondly, the relationship between career management, career growth, organizational commitment and turnover intention is reviewed. Finally, it reviews the shortcomings of the existing literature in the field of clinical medical personnel, proposes four relevant hypotheses, and draws a structural relationship diagram between organizational commitment, organizational career management and turnover intention.

Chapter 3: It identifies the research objects and definition of basic concepts, introduces the selection and design of the variable scale, explains the data acquisition process, and carries out validity test of the empirical data.

Chapter 4: Data analysis of career management, career growth, organizational commitment and turnover intention. Firstly, the basic characteristics of clinicians in the sample were analyzed, and the reliability and validity of the questionnaire were analyzed according to the results of the survey. Secondly, the scores of clinicians on variables such as turnover intention were described in general, and the differences of clinicians on variables such as turnover intention under different basic characteristics were analyzed. Thirdly, the correlation analysis was carried out. The relationship among career management, career growth, organizational commitment and turnover intention was tested by structural equation model.

Chapter 5: Discussion and conclusion. Based on the data analysis of the survey results in the previous chapter, this paper discusses in detail the influencing mechanism of employees' basic characteristics on variables such as turnover intention. Combining with previous studies, this paper explores the reasons behind the formation of career management, career growth, organizational commitment and turnover intention influence path. Finally, based on the results

of data analysis and discussion, the conclusions of this study are given.

Chapter 6: Policy recommendations. According to the conclusions of this study, policy recommendations are put forward from the macro level of government, the industry meso level, the micro level of hospital and the personal level of medical staff, and the limitations of this study and the prospects for future research in this field are pointed out.

1.3 Chapter summary

This chapter first introduces China's medical service system and the occupational characteristics of clinicians, and, on this basis, clarifies the importance of studying career management in level 2A hospitals, and then proposes the research purpose, research significance and research framework of this thesis based on the actual background.

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Chapter 2: Literature Review

This chapter reviews the existing literature on turnover intention, organizational commitment and career management, analyzes the connotation and measurement of multiple concepts, clarifies the relationship between the three, and proposes the theoretical hypotheses of this study.

2.1 Relevant theories of and research on turnover intention

2.1.1 Definition of turnover intention

Since the 1950s, scholars have begun to study turnover intention, and till now more than 60 years have passed. March and Simon (1958) argue that when an employee has the willingness to leave an organization and believes that the possibility is very high, s/he will take turnover behavior, and this willingness can be called turnover intention. The turnover intention can be considered as an intention of employees to voluntarily choose to leave the organization (Mobley, Griffeth, Hand, & Meglino, 1979; Hom & Griffeth, 1991). From a psychological point of view, the turnover intention mainly refers to a mental state that employees show after comprehensive assessment and measurement of the turnover issues before they actually quit the job (Zhu & Qin, 2018).

Resignation is generally a rational decision made by employees after considering its impact on life, family, and later career development. The turnover intention often occurs before the actual resignation, and it is an important indicator to predict the actual turnover of employees (Lee & Mowday, 1987; Tett & Meyer, 1993). Some scholars even regard turnover intention as a proxy variable for resignation (Poza & Henneberger, 2004). Previous studies have shown a strong positive correlation between turnover intention and actual resignation (Newman, 1974; Mobley, 1978; Ajzen & Fishbein, 1982; Shore & Martin, 1989; Ajzen, 1991; Igbaria & Greenhaus, 1992). Therefore, this study will use the tool of turnover intention to conduct research on clinical staff in China. The turnover intention in this study refers to the degree of willingness of clinical staff to quit the job after making a holistic assessment of related issues, but the turnover behavior has not yet occurred.

2.1.2 Relevant classical theories of turnover intention

Turnover intention often has a significant negative impact on the organization, so considerable studies focus on factors affecting turnover intention. The classical models include the March and Simon model (1958), Mobley's intermediate linkage model (1977), the Steers and Mowday model (1981), Lee and Mitchell's unfolding model (1994), the Price-Mueller model (2000), and models of Mitchell, Holtom, and Lee (2001) and Maertz and Campion (2004).

March and Simon (1958) proposed the model of the decision to participate, which believes that the turnover intention is the result of comprehensive consideration of the rationality and easiness of the outflow from the enterprise by employees. Rationality of outflow from the enterprise is affected by employee job satisfaction and their estimation of the possibility of inter-enterprise flow. There are three determinants in model of easiness of outflow from the enterprise, namely, the number of companies that employees have learned, the availability of competent positions, and the degree of willingness to accept positions. The March and Simon model introduces labor market and behavioral variables into the employee turnover process and they are among the earliest researchers of turnover intention.

Mobley's Model of Employee Turnover (1977) was proposed based on the March and Simon (1958) model. The model focuses on job satisfaction and analyzes the behavioral and cognitive processes that occur between employee job satisfaction and actual turnover behavior. It is believed in Mobley's model that the decrease of employees' job satisfaction will lead to the idea of quitting the job. Based on this idea, the employees will make a comprehensive evaluation of the idea and action to quit the job and measure other possible options. Then they will generate turnover intention and finally decide to leave.

The Steers and Mowday model (1981) was developed on the basis of the Mobley's Model (1977). The main objective is to express the main influencing factors of employee turnover through a conceptual block diagram model and to analyze the relationship of these factors in the employee turnover process. The Steers and Mowday (1981) model believes that employee job satisfaction affects employees' attitude toward work, their subjective attitude toward work affects the intention of leaving or staying, and the final intention of outflow of the organization leads to actual turnover behavior. The three variables of job satisfaction, job involvement and organizational commitment measure the subjective attitude towards work, while the variables of subjective attitude towards work are subject to influence of work expectation and value, organizational characteristics and organizational experience, and work

performance level. In addition, job expectations and values are influenced by individual variables, external labor markets, and economic conditions.

The Price-Mueller (1981) model believes that employee turnover is mainly determined by four important variables, namely, individual factor variables, exogenous variables, mediating variables, and environmental variables. Exogenous variables can be called structural variables and mainly refer to the work autonomy, distribution fairness, salary incentives, promotion opportunities and social support of employees. Individual factor variables mainly refer to the work enthusiasm and participation of employees, and even their negative emotions. Mediating variables include organizational commitment, job satisfaction, and turnover intention; environmental variables refer to external opportunities and responsibilities of relatives. The advantage of the Price-Mueller (1981) model is that it comprehensively considers the employees' subjective and objective factors and can analyze the employees' specific turnover behavior in an in-depth manner.

Lee and Mitchell's unfolding model of voluntary turnover (1994) focuses on employees' voluntary turnover and the more stimulating events of "shock to the system". These irritating and shocking events prevent employees from continuing to maintain their original working and mental state. So, they began to consider the impact of the shock on the work. This effect is uncertain and may be positive, negative or neutral, with more or less an impact on employee turnover. Lee and Mitchell believe that not all events are shocking, but if an event has a job-related situation, and makes the employee have the idea of quitting the job, then the stimulus of the event can be called shocks, otherwise it is not a shock event. The Lee and Mitchell model takes advantage of the mapping theory in the general decision model to understand the specific issues of employee turnover decisions (Beach & Mitchell, 1987). Based on the traditional turnover model, this model focuses on the impact of systemic shock on turnover decision-making. For the first time, it proposes four possible decision paths for employee turnover decision (Lee & Mitchell, 1994).

2.1.3 Influencing factors of turnover intention

There are many factors affecting the turnover intention of employees. They can be divided into three categories: (1) external factors, such as the number of enterprises in the labor market, and the scarcity of suitable positions; (2) internal factors, such as working hours, salary, and distribution equity; (3) individual characteristics factors, such as age, family, educational background and professional skills (Pettman, 1973; Cotton & Tuttle, 1986). It is

not difficult to find out after reviewing the literature that there is no consensus reached in the academia on the relationship between these factors. Different scholars have constructed different theoretical models from different perspectives (Cotton & Tuttle, 1986). Therefore, it is necessary to conduct targeted research on specific cases. Several variables related to this study are selected for in-depth analysis in the following part.

External job opportunities. Intuitively speaking, external job opportunities are positively correlated with turnover intention, which, in fact, is verified to be true by a large number of rigorous empirical studies (Quarles, 1994; Somers 1996). However, some scholars also found that employees' turnover is not necessarily driven by external job opportunities. In the absence of external job opportunities, employees may also have direct turnover behavior. In Lee and Mitchell's (1996) study, 45% of the subjects (nurses) left the original organization without actual job opportunities. The reason was that the nurses were in short supply at that time, so even if they did not look for other job opportunities beforehand, there were still many opportunities to get a job outside their original organization. Arnold and Feldman (1982) pointed out that the actual turnover behavior is the result of turnover intention and perceived job opportunities.

Internal factors, mainly including job satisfaction, organizational commitment and organizational support. In terms of job satisfaction, western scholars generally agree with the negative correlation between job satisfaction and turnover intention (Aryee & Leong, 1991; Koh & Goh, 1995; Egan & Kadushin, 2004; Ma & Trigo, 2008). To be specific, Koh and Goh (1995) studied the relationship between various aspects of job satisfaction and turnover intentions. They divide job satisfaction into eight aspects, namely, superior management, organizational identity, work type, workload, natural working environment, colleague relationship, economic compensation, and job prospects. It is found that all eight factors are negatively correlated with turnover intention.

In the Chinese context, a large number of studies have reached similar conclusions (Liu, 2014; Feng, Zhang, & Li, 2017). Bi and Yang (2017) distributed questionnaires to doctors in 44 public medical institutions in cities, counties and townships of Anhui Province. Through logistic regression analysis, it is found that poor salary is the primary factor affecting turnover intention, followed by expected income, performance appraisal, career planning, job satisfaction, the cost to become a doctor and other job opportunities. Liu, Jiang, Qi, Zhang, and Wang (2017) conducted a questionnaire survey of 704 nurses in four secondary hospitals in Dongcheng District, Beijing, and found that the main factors affecting turnover intention of

nurses were job satisfaction, working years, monthly income, individual educational background, job posts and their hard work. Yang, Sun, You, Xu, Wang, and Liang (2017) conducted a questionnaire survey on the turnover intention of 205 nurses in the comprehensive ICU of three level 3A hospitals in Qingdao. With the structural equation model analysis, it is found that job satisfaction has a partial mediating effect on the turnover intention of ICU nurses. Zheng (2017) conducted a survey on the turnover intention of 587 nurses in 86 community health service centers or service stations in Yancheng and found that nurses' job satisfaction was negatively correlated with their turnover intention. Liu (2014) found a negative correlation between job satisfaction and turnover intention of community nurses through regression analysis. Yang (2016) took the public hospitals of Wuxi as an example to study the influencing factors of the turnover intention of nursing staff in public hospitals. It was found that the most important factor affecting turnover intention of nurses was job satisfaction, followed by job burnout.

Organizational commitment. Organizational commitment and job satisfaction are considered to be the two most important reasons for turnover intention or turnover behavior (Mobley, 1977). As for the relationship between organizational commitment and turnover intention, it is universally believed by Western scholars that the two are negatively correlated (Steers, 1977; Arnold & Feldman, 1982). Steers (1977) argued that organizational commitment has a strong correlation with turnover intention. Arnold and Feldman (1982) believe that both organizational commitment and job satisfaction affect employee turnover intention, that is, organizational commitment and job satisfaction are important mediating variables that influence employee turnover.

Chinese scholars also reach similar conclusion in the Chinese context by empirical tests (Wang, Wang, & Liu, 2012; Zhou, 2012; Yang, 2013; Liu & Quan, 2017). With 23 medical institutions in Guangzhou, Shenzhen and Dongguan as the research objects, Liu and Quan (2016) found that organizational commitment has an indirect impact on doctors' turnover intention. In addition, job satisfaction plays a fully mediating role. It is empirically proved in the Chinese context that psychological capital plays a mediating role in the impact of organizational commitment on turnover intention. Wang et al. (2012) analyzed the relationship between turnover intention and organizational commitment of 424 contracted nurses and found that there is a negative correlation between them. In addition, economic commitment has the largest influence on turnover intention of the contracted nurses. Chen (2013) conducted a questionnaire survey on the relationship between organizational

commitment and turnover intention of 500 nurses in a level 3A hospital and found that the organizational commitment has a negative predictive effect on the nurse's turnover intention, and psychological capital plays a mediating role between them. Yin, Zhou, Jia, Wang, and Zhao (2012) conducted a survey on the correlation of psychological capital, organizational commitment and turnover intention among male nurses in eight level 3A hospitals and found that the psychological capital of male nurses is significantly correlated with organizational commitment and turnover intention. Psychological capital plays the role of a partially mediating variable.

Western scholars have three types of views on the relationship between job satisfaction, organizational commitment, and turnover intention. The first type of view is that job satisfaction affects organizational commitment and thus affects turnover intentions (Porter, & Steers, 1974). The second type of view is that job satisfaction is a mediator in the influence of organizational commitment on turnover intention (Bateman & Strasser, 1984). The third type of view is that both the organizational commitment and job satisfaction can affect turnover intention, and there is only correlation between the two (Wu, 2015). Subsequent empirical tests supported the third perspective (Li, 2013), and the third perspective was widely recognized.

Organizational support. From the existing research, organizational support has a significant negative correlation with employee turnover intention. Studies by Eisenberg, Standing and Tidball. (1990), Cropanzano, Howes, and Grandey (1997), and Jawahar and Hemmasi. (2006) prove that good organizational support can make employees feel a sense of belonging and thus curb their turnover intention psychologically. Ring (2011) argues that for life-long employees not at the beginning and end of their career, organizational support based on a secure organizational environment can reduce the likelihood of employee turnover. In the context of China, a large number of studies also support the view that organizational support can reduce the turnover intention of employees. This conclusion is consistent with the conclusion of foreign studies (Jiang, 2007; Chen & Chen, 2009; Zhang, 2015; Guo, 2017). With the pediatricians of public hospitals in central China as the research objects, Guo (2017) believes that organizational management and support have a great influence on turnover intention, while working environment, income, gender, education and other factors have little influence on their turnover intention. Zhang (2015) conducted a sampling survey of 330 registered in-service nurses in seven level 3A hospitals in Tianjin. Using hierarchical regression analysis, he found that organizational support can effectively reduce the turnover

intention of in-service nurses. Jiang (2007) and Chen and Chen (2009) use organizational support as the mediating variable and found that obtaining organizational support can reduce employee turnover intention.

Personal characteristics. The personal factors involved in the foreign study of turnover intention mainly focus on the promotion role of work in family life and working years (Ahmad & Omar, 2010), and it is found that family support for work has a dual impact on employee turnover, that is, direct impact on turnover intention and indirect impact on turnover intention through affective commitment. Chinese scholars mainly discuss the role of work in quality of life, career plateau and other personal characteristics. He, Sun, Liu, Gao, Li, and Cao, et al. (2011), with nurses as the research object, believe that nurses 'work and life quality have a negative correlation with their turnover intention, while work embeddedness and organizational commitment have partial mediating role. Bai, Lin, and Li (2011) studied the relationship between career plateau, job satisfaction and organizational commitment, and found that career plateau has a negative impact on job satisfaction and organizational commitment and would lead to an increase in employee turnover intention. The career plateau has a partial mediating role in this process. Chang, Wang, and Meng (2016) and Sun (2017) analyzed the influencing factors of turnover intention based on general practitioners in 263 community health service institutions in 6 cities including Harbin, Daqing, Suihua, Heihe, Daxinganling and Qiqihar in Heilongjiang Province, and found that increase of working years and work embeddedness can significantly reduce the turnover intention of general practitioners in community health service institutions. Zhou (2016) took the grassroots nursing staff in a district of Wuhan as the research object and found that nurses with strong turnover intention are characterized by young age, unmarried status, low professional title and low income. Cui and Yi (2013) selected 224 nurses from a level 3A general hospital in Beijing to analyze the relationship between their personal characteristics and turnover intention and found that there was a significant correlation between them. Chen and Li (2009) studied the impact of working years on turnover intention and found that working years (also known as objective career plateau) and subjective career plateau have a significant positive impact on turnover intention.

2.1.4 Measurement of turnover intention

Mobley (1978) first designed a four-item turnover intention scale, which included "I often want to quit my current job", "I may leave the organization to find another job', "I

intend to seek long-term development in the current organization" and "If I continue my current job, I will not have a good development prospect". Miehaels and Spector (1982) added an assessment of external job opportunities based on Mobley's (1978) scale - "the possibility of finding a suitable position in another organization with my current abilities and conditions", "the possibility for me to get the job if there is a suitable job vacancy in another organization", and eventually formed a six-item turnover intention Questionnaire (TIQ).

Chinese scholar Fan (1998) also designed a turnover intention scale and verified it in an empirical study of turnover intention in Hong Kong. The scale has high internal consistency and test-retest reliability. The contents include "I am very bored with the current job and want to change jobs"; "I often want to quit my current job"; "I will look for other job opportunities"; and "If there is a suitable job, I will accept it".

2.2 Theories of and research on career management

2.2.1 Definition of career management

Research on career management began in the United States in the early 20th century and has a history of more than 100 years. In 1909, Parsons (1909) officially proposed the concept of career management for the first time in his book Choosing a Vocation, marking the official beginning of relevant research on career management. Parsons pointed out that career management refers to the career development consulting services of guiding institutions to the career direction and career choice of employees. The guiding organization may be the organization where the employees are in, or it may be a specialized third party. It can be seen that this definition highlights the important position of individuals in the career management process, and career management is based on individuals.

Since career management of individuals is carried out within the scope of organization, career management is essentially a process of selection of careers and organizations. Therefore, in order to improve employee productivity, organizations must consider employees' needs for career management. On this basis, some scholars define career management as a series of activities of an organization. Gilley (1988) pointed out that career management is an integrated human resource activity, which is to use human resource management measures to deal with individual career development. Considering the facts of rapid technological innovation in modern society and frequent employee turnover, scholars are no longer limited to studying career development in one or two organizations but begin to

focus on career issues of multiple occupations or organizations (Arthur & Rousseau, 1996; Sullivan, 2003; Hall, 2004). Arthur and Rousseau (1996) contend that employees are less likely to spend their entire career in only one organization. Their careers are no longer determined by traditional organizations; instead, the initiative and decision-making of employees in career management are emphasized. Considering that the research objects are the Chinese clinical staff and their cross-industry occupational mobility is not quite often, this study adopts Milkovich and Boudreau's (1991) views to define career management, that is, the selection, assessment, assignment and development of employees by an organization to train qualified personnel to meet the future demands.

2.2.2 Theoretical basis of career management

(1) Research on individual-level career management

Research on individual-level career management mainly focuses on two perspectives. One is to analyze the individual-level career management from the perspective of person-vocation fit (Holland, 1971; Parsons, 1909; Schein, 1990; Kristof, 1996).The other is to study career management from the perspective of individual development stages, and it is believed that the career characteristics of individuals will change at different stages of development (Ginzberg, 1951; Super, 1988; Liao, 2004).

As a representative theory of person-vocation fit, the trait factor theory (Parsons, 1909) argues that there are three broad factors in career choice. The first is to clearly understand the individuals' qualifications, personality, interests, ambition and resources, and analyze the causes of these factors; the second is to understand the advantages and disadvantages, rewards, prospects and conditions required for success, including the needed knowledge and external resources, of different vocations; the third is the fit between the above two. Parsons pointed out that the essence of career decision-making is the fitting process of individual self-cognition and existing job positions.

Holland (1971) proposed the theory of personality types. He believes that vocational preference (including values, motivations, and needs) is an important factor in determining career choice. According to the vocational preference test (VPT), most people are one of six personality types: realistic, investigative, artistic, social, enterprising, and conventional. Correspondingly, there are six basic types of work environments: realistic, investigative, artistic, social, enterprising, and conventional. Holland pointed out that shorter distance between vocational type and personality type means higher degree of fit vocation and person

and higher level of job satisfaction.

The career anchor theory (Schein, 1990) believes that career development is actually a process of continuous exploration, and the career anchor is the long-term career orientation identified by individuals through exploration. Specifically, it is a clearer and more comprehensive view of the vocation that is gradually developed by individuals based on their actual work experience in the early stage of career. The anchor is an iron appliance used to park the vessel. Career anchor is actually the center people are around when they choose and develop their own vocations. It refers to the vital things or values in a vocation that s/he will never give up when having to make a choice and it is an acquired part of self-intention. Career anchor emphasizes the interaction and integration of personal abilities, motivations and values. Career anchor is the product of the interaction between individuals and the work environment and is constantly adjusted in actual work. The career anchor questionnaire is one of the most widely used and effective tools for occupational assessment in foreign countries. The career anchor questionnaire is a tool of career planning consultation and self-understanding that can help organizations or individuals to make better career development plans.

Kristof's (1996) person-organization fit emphasizes the fit relationship between individuals and organizations rather than the relationship between individuals and vocations. The theory holds that there are two forms of fit between individuals and organizations, namely, supplementary fit and complementary fit. When the basic characteristics of an organization such as its culture, atmosphere, values, and goals are similar to those of an individual such as personality, values, and goals, supplementary fit is achieved; when the organization provides the finance, materials, resources and development opportunities needed by individuals, or when employees are able to meet organizational requirements in terms of effort, experience, and skills, the complementary fit is achieved.

Another part of the scholars pay attention to the stage of the individual and believe that the individuals' career characteristics will change at different stages of development. Super's (1988) five-stage career development divides people's career into five main stages, namely, growth stage, exploration stage, entrepreneurial stage, maintenance stage and recession stage. Based on the age of individuals, the theory divides career into different stages, and proposes the main tasks of the individuals at each stage. Ginzberg's (1951) three-stage career development theory divides career into the fantasy stage, the tentative stage, and the realistic stage. The tentative stage is further divided into sub-stages of interest stage, capacity stage, value stage and transition stage; the realistic stage is further divided into sub-stages of

exploration stage, crystallization stage and specification stage. The focus of this theory is to divide the change and development process of career awareness and career pursuit before employment. It has found out the different characteristics and laws of the individual's career exploration, entry and development process from the psychological and physiological levels before employment. The "Three Threes" career development theory of Liao (2004) divides career into three stages: input, output and fading out. The output stage is subdivided into adaptation stage, innovation stage and re-adaptation stage. The re-adaptation stage includes three situations of smooth promotion, remaining in the same place and descent to the trough.

(2) Research on organizational-level career management

Research on career management at the organizational level mainly focuses on two aspects (Liu, 2006; Fu, 2013). One is research on the structure of organizational career management, which explores the dimensions and structure of organizational career (Sonnenfeld & Peiperl, 1988). The other is a discussion of relevant factors of organizational career management (Hall, 1996; Long, 2002). The former will be elaborated in the next section, and this section will mainly focus on the latter.

In the discussion of the effectiveness of career management, some scholars believe that corporate strategy will have an impact on the organization's career system (Sonnenfeld & Peipel, 1988). Sonnenfeld and Peipel (1988) argue that after choosing different strategic positions, enterprises will choose the corresponding career system. For example, there are prospector strategy and baseball team career system, defender strategy and club career system, analyzer strategy and academy career system, and reactor strategy and fortress career system. Herriot, Gibbons, and Pemberton (1994) found that fair treatment and organizational development orientation have a significant effect on predicting managerial career management satisfaction. Baruch and Peiperl (2000) also believe that it is necessary to integrate the career management system from both internal and external perspectives. Internally, various management practices should be integrated, and externally, the career management systems, organizational culture and strategy should be integrated. Ruan and Chen (2004) found that job analysis, compensation system, strategic goals, management support and employee participation and cultural input will have an impact on the career management system.

In fact, more scholars are concerned about the impact of organizational career management on individuals and organizations. On the issue of efficiency, some scholars believe that internal-oriented organizational career management will lead to the dependence

of enterprises on the internal labor market, which results in inefficiency due to overlook of the external market (Jacoby, 1984; Osterman, 1984). Based on the same arguments, however, some scholars reached the conclusion that this type of career management will improve efficiency (Chandler, 1962, 1977; Williamson, 1975). Sonnenfeld and Peiperl (1988) pointed out that the reason for the divergence is the difference between enterprises and industries. As a result, it makes sense to conduct targeted research on specific industries and enterprises.

Other scholars have studied other outcome variables of organizational career management. Pazy (1988) examined the correlation between organizational career management and employee job performance, occupational attitude, career identity and adaptability (ability to adapt to career changes), and results indicate that organizational career management has a significant correlation with job performance, occupational attitude and career identity, but has no significant correlation with adaptability. In the empirical research on organizational commitment structure carried out by Ling, Zhang, and Fang (2000), it is found that if the organization pays attention to the employees'career aspirations and ambitions, the organizational commitment of employees will increase. Long, Fang, and Ling (2002) studied the impact of organizational career management on employee psychology and behavior through questionnaires. The research shows that organizational career management of Chinese enterprises has a significant positive impact on employees' organizational commitment, job involvement, job performance and career satisfaction.

Chinese scholars started rather late in research on career management, and a large number of studies are empirical tests of different industries in the Chinese context based on foreign theoretical research. In exploration of the antecedent variables of career management, Liu (2009) explored the career management of knowledge workers in the IT industry. It is found in the research that The IT industry knowledge worker career management system framework consists of four parts: career management strategies, career management influencing factors, career management feedback system and career management human resource support system. The enterprise development cycle has a significant impact on the choice of career management by IT enterprises. The typical career anchor type of knowledge workers and their career development cycles have a partial impact on the choice of career management strategies by knowledge workers, and there are certain interaction effects between the two factors. Through the questionnaire method, Yuan, Yi, and Han (2016) summarized the effective content of career management in development-oriented enterprises. They argue that career development and training opportunities have a positive effect on job

matching, and perception of employment relationship quality and job achievement have a certain degree of impact on this positive effect. Wang (2006) and Yue and Xiong (2007) studied the impact of organizational development on career management, pointing out that the trend of organizational change in the future is flat, flexible, virtualized, and networked, emphasizing the "dynamic" (environmental, organizational, and personal changes) perspective, and proposing strategies that organizations and employees may adopt in their career management.

In research on the relationship between organizational career management and its consequences, Huang, Wang, Zhang, Zhou, and Bao (2018) investigates the impact of career management of nurses in Changsha on the status quo of career development. Studies have shown that apart from the two dimensions of retention and turnover intention and focus on relationship that are not relevant, the remaining dimensions of the career planning and management of nurses are all positively correlated with their career development. Career planning and management can effectively promote the career development of nurses. Long, Fang and Ling (2002) conducted an empirical study on the organizational career management and effectiveness of Chinese enterprises and found that organizational career management has a positive impact on organizational commitment, job involvement, job satisfaction and work performance. Zhou and Li (2006) used the organizational career management questionnaire developed by Long (2002) to investigate employees of many companies and found that there is a significant positive correlation between organizational career management and job involvement of employees. Moreover, the relationship between all the dimensions of organizational career management and the employees' job involvement has reached a significant level. The most significant correlation is between "promotion fairness" and job involvement, and the least significant correlation is between "focus on training" and job involvement. Cheng (2006) empirically analyzes the impact of organizational career management on employees' job satisfaction and verifies that there is a correlation between organizational career management and job satisfaction. In addition, organizational career management has a positive impact on the improvement of employees' job satisfaction.

2.2.3 Dimensions and measurement of career management

In the related research on career management, different scholars have constructed a series of measurement scales. Throughout the literature, the scales can be divided into two categories. One is the measurement of individual career planning, which focuses on various

aspects of individual characteristics (Kuder, 1934; Minnesota, 1961). The other is the measurement of organizational career management, which focuses on the characteristics of organizational career management activities (Gutteridge, 1986; Lin, 2000; Long, 2002).

(1) Individual career planning measurement

The Kuder Occupational Interest Survey (KOIS). Kuder first compiled the Kurder interest profile in 1934 and later revised it in 1966, 1985 and 1999. The latest version of the Kurd Occupational Interest Survey is the 1999 Kuder Career Search with Person Match. It offers a person-to-person match, and the subjects' characteristics will be compared to the criteria group in the database to get the top 25 matching lists. These lists present individuals most similar to the subjects. The test report will also provide the biographical information of the best matched individual as well as the satisfaction of a certain type of work so that the subjects can conduct career exploration.

Minnesota Vocational Interest Inventory (MVII). The inventory was compiled in 1961 by the psychologist Clark from University of Minnesota. MVII contains a total of 158 items, and its descriptions are similar to the Kuder Occupational Interest Survey. MVII is targeted at the military personnel, individuals who have never gone to universities, and applicants for apprentices. The subjects will select the favorite and the least preferred activities from the three-in-one options.

The Chinese Vocational Interest Inventory of Holland Type. Based on the personality-vocation fit theory proposed by Holland (1977) and the occupational reality in China, Fang (1996) compiled the Chinese vocational interest inventory of Holland type. The inventory has four sub-scales of Activity, Competence, Vocation and Self-estimation with a total of 138items, of which 78 are original Holland scale items and 60 are new items added by researchers. Each scale contains six factors, corresponding to the six personalities of Realistic, Investigative, Artistic, Social, Enterprising and Conventional. The scale has good construct validity and criterion validity as well as good reliability.

(2) Organizational career planning measurement

Review of the literature at home and abroad shows that the measurement dimensions of organizational career management involve factors such as job content, position information, job mobility, offering of training, and occupational fairness. Some of the studies are summarized in Table 2-1.

Table 2-1 Organizational career management measurement

Author	Items
Gutteridge (1986)	1. Offer self-assessment tools to individuals; 2. Offer career development consultation to individuals; 3. Offer internal labor market information; 4. Establish potential assessment center; 5. Implement training and development programs.
Herriot (1994)	1. Development orientation; 2. Selectivity and acting force of organizations in career decision-making; 3. Definiteness of the future; 4. Focus on professional values; 5. Fair treatment; 6. Organizational responsibility; 7. The degree of staying in or leaving the organization determined by the individual or the organization; 8. Openness of job vacancies.
Lin (2000)	1. Career information; 2. Career development; 3. Career consultation; 4. Career pathway; 5. Supervisor role.
Long (2002)	1. Fairness in promotion; 2. Offering of information; 3. Focus on training; 4. Occupational self-cognition.

At present, in the research on the organizational career management in China, the scale developed by Long (2002) has been recognized and adopted by many scholars. He has developed and compiled a localized career management questionnaire to divide the organizational career management into four dimensions of fairness in promotion, offering of information, focus on training, and occupational self-cognition. To be specific, fairness in promotion includes promotion of those with good performance, promotion based on achievements and capabilities, provision of fair competition standards, clear promotion standards, and public investigation. Offering of information includes offering of promotion information, offering of job vacancies, and offering of training opportunities. Focusing on training includes regular or irregular training, offering of training funds, conditions, and materials and encouragement of on-the-job training. Occupational self-cognition includes assistance in career choice, feedback of work performance, change of job positions, and revelation of the advantages and disadvantages.

2.3 Theories of and research on career growth

2.3.1 Definition of career growth

A review of existing research on career growth reveals that scholars have yet to reach a consensus on the definition of career growth. Argyris (1975) first proposed the concept of career growth and argues that career growth is a growth of employees and is a process in which employees change from passive and dependent state to an active and relatively independent development. Graen (1997) contends that career growth is a concept of speed and refers to the speed at which employees move along the direction that produces more valuable work to themselves. However, this concept has some shortcomings. First of all, this concept does not consider the career growth of individual employees in the absence of job change. Second, the concept is not very operative. In China, Weng and Hu (2009) and Weng (2009) believe that career growth includes both intra-organizational and inter-organizational career growth. The intra-organizational career growth refers to the career development speed of employees within the current organization, including the development speed or growth rate of professional ability, goals, promotion and remuneration. The inter-organizational career growth refers to the career growth of individual employees in the course of job changes. Yuan and Wang (2010) believe that career growth refers to the intra-organizational career growth and is an opportunity of career promotion or other kinds of progress, including the knowledge improvement in career, enrichment of work experience and the increase of sense of responsibility.

2.3.2 Measurement of career growth

Career growth is multi-dimensional and different scholars use different scales to measure it according to their research questions (Nkereuwem, 1996; Chay & Aryee, 1999; Tharenou, 1999; Metz & Tharenou, 2001; Garavan, 2006; Weng & Hu, 2009). There are two main indicators of career growth adopted by Chay and Aryee (1999), namely, “I feel that my current job is the basis for the achievement of my career goals” and “My current work is related to the development of my entire career”; Nkereuwem (1996) internalizes career growth into a career growth prospect and the main measurement indicator is “the opportunity to be promoted to a higher level position”; Garavan (2006) focused the career growth targets on the management staff and the three main measurement indicators are “the number of job flows at the management level”, “the level of management achieved”, and “the amount of

wage increase"; Metz and Tharenou (2001) also focused the career growth targets on the management staff, and there are mainly four measurement indicators, namely "employee management level", "salary level", "the amount of subordinate employees", and "the total amount of promotions"; Tharenou (1999) also focused the career growth targets on the management staff, and there are three measurement indicators, namely, "changes in employee management level", "the amount of promotions", and "the amount of salary growth"; Weng and Hu (2009) developed a questionnaire on the measurement of career growth that mainly includes four dimensions, namely, career goal progress, career ability development, career promotion speed, and remuneration growth speed. These four dimensions have a total of 15 indicators to complete all measurements of career growth.

2.3.3 Driving factors of career growth

As for the driving factors of career growth, domestic and foreign scholars have carried out a lot of studies and reached a series of research conclusions. The first scholars to study the driving factors of career growth are Ragins and Sundstrom (1989) who argued that the driving factors of career growth are multidimensional, influenced both at the organizational level and the employee level. In fact, the driving factors of career growth are more from the factors behind the organizational level and employees level such as demographic variables (including gender, race, age, marital status, and duration of employment), personality characteristics (Judge, Higgins, & Thoresen, 1999; Seibert, Crant, & Kraimer, 1999; Seibert & Kraimer, 2001; Seibert, Kraimer, & Crant, 2001; Schaubroeck & Lam, 2002), social background (Markham, Harlan & Hackett, 1987), employment status (Schneer & Reitman, 1990; Judiesch & Lyness, 1999), social capital (Seibert, Maria, & Robert., 2001), human capital (Wayne, Liden, Kraimer, & Graf, 1999).

Chinese scholars have also conducted considerable studies on the driving factors of career growth and the conclusions are consistent with those of foreign studies. Xu (2012) and Jin and Zhu (2015) believe that individual factors and situational factors are the main factors affecting the career growth of employees; Liu, Huang and Zhang (2014) took the nurses as the research object and find that the purpose of work is the biggest influencing factor of career growth, and the term of employment and gender are in the second level that affects career growth; Xu and Peng (2017) took the leading talents of vocational education in Jiangsu Province as an example and found that the major factors affecting the growth of them are government's reasonable guidance, working environment of the organization, the family

atmosphere, personal morality, educational experience, and school policies. Yang, Zhang and Liu (2015) argued that personal factors and organizational factors are the main influencing factors of the career growth of nurses; Liu (2016) conducted a survey on the career growth of undergraduate nurses in level 3A hospitals and found that the major factors affecting their career growth include career ability improvement, career goal progress, job promotion speed and salary growth rate.

2.4 Theories of and research on organizational commitment

2.4.1 Definition of organizational commitment

Most scholars agree that Becker (1960) is the first to fully explain the connotation of organizational commitment (Zhao, 2008). In fact, the side-bet theory proposed by Becker (1960) is a summary of early related research (Bennis, Berkowitz, Affinito, & Malone, 1958; Gouldner, 1958). The theory holds that the relationship between individuals and organizations is a relationship based on economic interests. As individuals increase their side-bet to the organization, the individual perceived sunk cost of leaving the organization will increase, and the individual willingness to leave the organization will reduce.

For the connotation of organizational commitment, another school of scholars elaborate it from the perspective of identity. The scholars believe that the relationship between individuals and organizations is an emotional dependence rooted in the recognition of organizational objectives and values (Porter & Steers, 1974; Mowday, Steers, & Porter, 1979). Buchanan (1974) positions organizational commitment as "individual recognition of the goals and values of the organization they are in, the relationship between individual and organizational goals and values, and the individual emotional experience with the organization brought by this identity and relationship".

The third category is the eclectic school of scholars who believe that the connotation of organizational commitment is multidimensional (Wiener, 1982; O'Reilly & Chatman, 1986). Meyer and Allen (1984) proposed that organizational commitment includes three parts, namely, Affective Commitment, continuance commitment, and Normative Commitment. Affective commitment refers to the employees' emotional dependence on and recognition of the organization. It is identical with the second type of research mentioned above. The concept of continuance commitment is Becker's (1960) elaboration of organizational commitment. Normative Commitment refers to the sense of responsibility of an individual to

stay in an organization brought about by their ethical standards. In a particular social context, general ethics generally encourage individuals to stay in the original organization. As a result, individuals have a psychological obligation to "continue to retain an employment relationship with the organization" and this kind of loyal behavior will be praised to some extent (Wiener 1982).

In the existing literature, apart from the above three mainstream interpretations of the definition of organizational commitment, there are still a large number of definitions of organizational commitment. Morrow (1983) pointed out that there were already more than 30 definitions of organizational commitment and considered it to be a severe Concept Redundancy which needs attention of researchers. Nonetheless, researchers (Stevens, Beyer, & Trice, 1978; Meyer & Allen, 1991; Meyer, Allen, & Smith, 1993) basically agree that organizational commitment is an individual's psychological contract for the organization and a long-term stable state of mind to remain in the original organization.

2.4.2 Antecedent variables and outcome variables of organizational commitment

Antecedent variables—A large number of literature discusses factors affecting organizational commitment from different perspectives (Mowday, Porter, & Steers, 1982; Jones, 1986; Abdulla & Shaw, 1999). Mathieu and Zajac (1990) classify the relevant factors affecting organizational commitment into eight categories, including personal characteristics, work characteristics, organizational characteristics, job performance, job satisfaction, working pressure, motivation, team and leadership relationship. Williams and Anderson (1991) divide the antecedent variables into work characteristics, organizational characteristics, personal characteristics, and colleague characteristics. Based on the various factors mentioned in the literature, this study summarizes the antecedent variables of organizational commitment as individual characteristic variables, work characteristic variables, and organizational characteristic variables.

(1) Individual characteristic variables. Some scholars have found that age is positively correlated with organizational commitment. With the increase of age, the cost for individuals to find a new position is usually higher, leading to a higher level of organizational commitment (Sheldon, 1971; Hrebiniak, 1974; Steers, 1977; Allen & Meyer, 1990). Educational background is negatively correlated with organizational commitment. Those with higher education level are more likely to find new jobs in the labor market, and thus the level of organizational commitment is lower (Koch & Steers, 1978; Mowday, 1982).

(2) Work characteristic variables. Some researchers have found that organizational commitment is positively correlated with job satisfaction (Wiener & Vardi, 1980; Martin & O'Laughlin, 1984; Kushman, 1992), while other researchers found no significant relationship between the two (Curry, Wakefield, Price, & Charles, 1986). According to the theory of Trope and Liberman (2003), the individual's perception of job satisfaction is direct and perceptual, and its evaluation results are less stable; the object of organizational commitment is abstract entities, and the individual's perception is indirect, abstract and stable. Therefore, there is no necessary causal relationship between organizational commitment and job satisfaction, and the mutual influence of the two may change while the context changes.

(3) Organizational characteristic variables. Empirical studies have shown that employees who perceive greater support from the organization will have higher affective commitment (Shore & Wayne, 1993). Organizational climate, management behavior, organizational experience, and mission clarity also have an impact on organizational commitment (Mao, 1994). In addition, strong organizational culture is significantly correlated with organizational commitment. The higher the consistency of the organizational culture, the higher the organizational commitment of members will be. Common adherence to organizational norms can improve the organizational commitment level of the members (O'Reilly, 1983).

Outcome variables—work performance and withdrawal behavior are two types of outcome variables commonly used in research on organizational commitment. It is found that higher the organizational commitment leads to higher work performance, and those with lower organizational commitment have lower the quality of work (Champoux & Porter, 1975). Organizational commitment is an important factor affecting personnel turnover and performance (Johnston, 1986). However, quantitative studies by Mathieu and Zajac (1990) and Randall (1999) show a low correlation between organizational commitment and work performance. The correlation coefficients of the two studies are 0.12 and 0.13 respectively. The difference in research results may be the difference of research objects.

In addition to work performance, the researchers also found other outcome variables for organizational commitment. For example, the organizational commitment has an impact on the retention willingness and turnover intention. In the early period of the career, employees are not closely related to the organization, so they are mainly affected by personal factors and psychological factors. With the development of their career, their input in the organization increases and the time and energy spent gradually accumulate, and they also get more material and spiritual rewards and dependence, so their relationship with the organization is

increasingly close (Stevens, 1978; Abelson, 1983).

2.4.3 Research on organizational commitment in the Chinese context

Chinese scholars started research on career management in the 1990s, but there are still a large number of scholars who have conducted relevant research on organizational commitment (Zhang, Fang, & Ling, 1997; Tan & Ling, 2002; Wang, 2007; Deng, 2009; Yang & Tang, 2010; Ruan, 2012; Wang, 2012). Wang (2012) took 356 employees from different types of enterprises in the Yangtze River Delta and Pearl River Delta regions as research objects and used the organizational commitment scale revised by Professor Ling to carry out empirical research on organizational commitment via the confirmatory factor analysis method. The study found that the organizational commitment of Chinese employees presents a four-factor model, namely, four factors of affective commitment, ideal commitment, normative commitment, and continuance commitment. The demographic variables are different in the four-factor model of organizational commitment. Tan and Ling (2002) believe that the major reason behind the difference of organizational commitment of Chinese employees and their western counterparts is the cultural and social factors. Business managers should have a deep understanding of the organizational commitment of employees and improve their management practices based on the understanding to enhance employee commitment. Deng (2009) believes that when enterprises face difficulties, in order to let employees and enterprises advance and retreat together, the most important thing is to understand the organizational commitment of Chinese employees based on an in-depth analysis of Chinese social culture. The commitment to the organization by the Chinese employees gives them a higher sense of identity and dependence on the organization. They are loyal to the organization and are willing to do their best for the development of the organization, thereby improving the performance of the employees and ultimately enhancing corporate competitiveness. Wang (2007) studied organizational commitment from the perspective of company transformation. With the Eastern Zone Construction Co., Ltd. Of Guangzhou Southern Power Group as an example, Wang adopted questionnaire survey to analyze the organizational commitment in the company's transformation. The research results show that there is no correlation between the hierarchical status and organizational commitment in the company; the organizational commitment decreases with the increase of employees' working hours; the organizational commitments of employees in different positions differ, but the difference is not obvious; there is a correlation between employee commitment to the Eastern Zone Construction Company and affective commitment to the

power grid sector, especially there is a strong correlation between organizational commitment of employees to the Eastern Zone Company and their normative commitment to the power grip sector; there is a strong correlation between management factors and organizational commitment. Yang and Tang (2010) used the structural equation model to analyze the mapping relationship between the interpersonal harmony concept and organizational commitment of employees in Chinese small and medium-sized enterprises and found that there is a significant positive relationship between enterprise employee harmony and organizational commitment, and there is no significant relationship between tool harmony and organizational commitment. With employees of Vietnamese enterprises as research objects, Ruan (2012) adopted exploratory factor analysis, confirmatory factor analysis and structural equation modeling to verify the organizational commitment of Vietnamese enterprise employees, and found that in different cultural backgrounds, the organizational commitment structure of Vietnamese enterprise employees is different from the three-dimensional organizational commitment structure of employees in the Western countries and the five-dimensional organizational commitment structure of the Chinese employees. The organizational commitment of employees of the Vietnamese enterprises presents a four-dimensional model of economic commitment, ideal commitment, affective commitment, and normative commitment. Compared with the five-dimensional structure of the Chinese employees, they lack the opportunity commitment. The organizational commitment level of Vietnamese enterprise employees exerts an influence on the work input, job performance, job satisfaction, and turnover intention of employees, and the influences of the four different organizational commitment dimensions on the outcome variables are different; the four dimensions of organizational commitment of Vietnamese enterprise employees are different in different demographic characteristics such as gender, age, educational level, job positions, and working years.

In terms of data fitting in China, Chen and Francesco (2003) found that the four-factor commitment structure can better fit the data: affective commitment is positively correlated within-role performance and organizational citizenship behavior, continuance commitment has significant negative correlation with organizational citizenship behavior, and normative commitment plays a mediating role in the relationship between affective commitment and in-role performance as well as organizational citizenship behavior. Cheng and Stockdale (2003) found that the five-factor commitment structure can better fit the Chinese context. Affective commitment and normative commitment are significantly correlated with job

satisfaction. All three commitments are significantly correlated with turnover intention. Normative commitment has a mediating effect on the relationship between continuance commitment and job satisfaction as well as turnover intention.

As for the formation mechanism of organizational commitment, there are mainly two categories of views in China. First, some scholars believe that the organizational commitment cycle changes with the employees' career cycle, including the shock period, the identification period, the stabilization period, the rumination period, and the solidification period (Han & Liao, 2005). During the shock period, the organizational commitment is high and low, in the identification period the organizational commitment increases significantly, in the stabilization period the organizational commitment is in a stable equilibrium, in the rumination period the organizational commitment decreases with the increase of employees' working years, and in the solidification period the organizational commitment begins to rise until retirement (Han & Liao, 2005). Second, based on the hierarchy of needs, other scholars divide the organizational commitment into continuance commitment in the material level, normative commitment in the institutional level and affective commitment in the spiritual level (Zhu, 2007, 2008).

From a cultural perspective, the organizational commitment in the Chinese context has distinct characteristics. First, the organizational commitment of Chinese individuals is mainly manifested in the loyalty the employers (and his family) rather than the abstract organization as a whole. The underlying reasons for this characteristic may be China's familism and dependence on authoritative figures at the psychological level. Second, the boundaries of organizational commitment are unclear. For example, the top management of an organization have a higher organizational commitment to its higher-level organization than to their own organization. This is different from the fact in the Western countries, and the reason may be the rigid structure of the state system of China. Third, employees have a relatively high affective commitment to the informal groups in which they participate and this commitment often exceeds the commitment to their formal organization (Guo, 2001).

2.4.4 Structural dimension and measurement of organizational commitment

One-dimensional structure and measurement - The one-dimensional structure is in fact the interpretation of the connotation of organizational commitment by Becker (1960) and Porter and Steers(1974). The empirical studies of the side-bet theory have developed the R-TS scale and H-AS scale (Ritzer & Trice, 1969; Alutto, Hrebiniak, & Alonso, 1973), which

investigate the intention of respondents to leave the original organization when factors such as money, freedom, status and promotion change. If the respondent remains in the original organization when conditions such as money become favorable, the organizational commitment is relatively high. Porter and Steers (1974) developed a set of organizational commitment questionnaires (OCQ) including the loyalty to the organization perceived by the specific correspondents, the willingness to make a lot of efforts to accomplish the organizational goal, and the acceptance of organizational values. Mathieu and Farr (1991), Zeffane (1994), Cohen and Hudecek (1993) found through factor analysis that nine questions in OCQ measure attachment to the organization, and six questions measure the employees' turnover intention.

Two-dimensional structure, three-dimensional structure and measurement - Allen and Meyer (1990) integrate previous research results and propose the three-dimensional structure of organizational commitment - "affective commitment", "continuance commitment" and "normative commitment", and compile scales of the three commitments respectively (ACS, CCS, & NCS). The three scales contain eight questions each to identify whether the retention of individuals in an organization is because of emotions, interests, or moral constraints.

Four-dimensional structure and measurement - McGee and Ford (1987) re-examined the three-dimensional structure scale used by Meyer and Allen (1997) and found that the continuance commitment can be divided into two sub-dimensions. The first sub-dimension refers to the scarcity of alternative job vacancies in the labor market, and individuals choose to temporarily stay in the original enterprise because it is difficult to find a new position. The second sub-dimension is that the individual stays in the original enterprise in consideration of the high sunk cost of leaving.

Five-dimensional structure and measurement - In light of the special context in China, Ling, Zhang, and Fang (2001) compiled the "Organizational Commitment Questionnaire of Chinese Employees". Through semi-open questionnaire, they found that organization commitment of the Chinese employees includes five factors: affective commitment, ideal commitment, normative commitment, economic commitment, and opportunity commitment. The connotation of opportunity commitment is similar to the connotation of the first sub-dimension of McGee and Ford (1987), and it means that "the root cause of staying in this organization is that there are no other satisfying organizations". The ideal commitment is not covered in Western research, and it means that individuals believe that continuing to stay in the original organization can help achieve their goals and develop their own expertise. The

final questionnaire consists of 25 questions in 5 dimensions.

2.5 Research on relationship between organizational career management, career growth, organizational commitment and turnover intention

2.5.1 Relationship between hospital organizational career management and turnover intention of clinicians

A series of studies have shown that there is a significant negative correlation between turnover intention and career management. Price (2001) did not officially consider organizational career management as a separate antecedent variable of turnover intention, but, in fact, he had proposed that the factors affecting turnover intention include job involvement and promotion opportunities, and the concept of organizational career management includes job involvement and promotion opportunities. Therefore, the study proves that organizational career management has a significant impact on turnover intention. Hay Group (1999) carried out a study of 172 IT professionals who recently quit their jobs on the main reasons for their turnover and found that career development and job happiness are the main factors affecting the turnover of IT professionals under the age of 30.

Organizational career management includes four dimensions of career information disclosure, vocational ability training, career cognition, and promotion fairness (Long, 2002). Scholars have conducted empirical research on the relationship between each dimension and turnover intention, and all the results are significant negative correlation (Gui, 2008; Ding, 2012; Zheng, 2014). Gui, Wang and Chen (2008) believe that the traditional step-by-step career development model is mostly aimed at a few people, not most people, as it tends to cause the “ceiling effect” and accelerate the turnover intention of employees. Ding (2012) found that organizational career management and its four dimensions have a significant impact on employee turnover intention, and career self-cognition and promotion fairness have a relatively large direct impact on turnover intention. It is indicated that current employees are increasingly valuing their career development. They need to acquire knowledge and skills in the organization. They hope that someone will give feedback on their job performance and point out their strengths and weaknesses to help them grow. Fair promotion opportunities are still very important to employees, and the behavior of black-box operations can seriously dampen the enthusiasm of employees, resulting in turnover intention. Zheng (2014) studied the relationship between organizational career management and employee turnover intention

in high-star hotels and found that the four dimensions of organizational career management have a significant negative impact on turnover intention. To be specific, occupational information disclosure and vocational ability training have a direct negative impact on turnover intention, while career cognition and promotion fairness have an indirect negative impact on turnover intention through affective commitment and normative commitment.

Some scholars believe that career management does not directly affect turnover intention. There are several mediating variables in the conduction path, including job satisfaction, organizational commitment and organizational support (Wang, 2007; Zhang, 2009; Fu, 2013; Liu, 2014; Hao, 2016). Zhang (2009) took 224 knowledge workers from different positions in different enterprises as samples and found that the fair promotion, offering of information, focus on training and professional cognition in organizational career management are all negatively correlated with turnover intention. In addition, the sense of organizational support can better explain the relationship between organizational career management and employee turnover. In the research on the impact of organizational career management on the turnover intention of employees within three years of university graduation, Wang (2007) used job satisfaction and organizational commitment as mediating variables to carry out a questionnaire survey and found that career management is negatively correlated with turnover intention of employees within three years of university graduation. If the organization can strengthen the career management of employees within three years of university graduation, their job satisfaction and organizational commitment level will increase, which will reduce their turnover intention. Fu (2013) explored the impact of large-scale commercial bank organizational career management on employee turnover intention and found that large-scale commercial bank organizational career management has a significant negative effect on turnover intention. Organizational career management has a significant positive effect on employee career growth, employee career growth has a significant negative effect on turnover intention, and employee career growth plays a significant mediating role between organizational career and turnover intention. Liu (2014) conducted a study on the impact of organizational career management on the turnover intention of employees of management consulting firms. The results show that organizational career management has a direct negative impact on turnover intention, and job satisfaction plays a partial mediating role. Hao (2016) studied the mediating role of affective commitment in organizational career management and employee turnover intention and found that the dimensions of organizational career management perceived by employees have a significant negative impact on turnover

intention. Apart from the dimension of focus on training, other dimensions of organizational career management have a significant positive impact on affective commitment. Affective commitment plays a full mediating role between promotion fairness and turnover intention, and a partial mediating role between employee self-awareness and career information communication and turnover intention. Wang, Sun, Guan, Nie, Zhang, and Han (2015) analyzed the relationship between nurses' career planning and their job satisfaction and turnover intention based on 1,139 on-the-job nurses from ten level 3A hospitals in Beijing and found that nurses' career planning status and their job satisfaction is positively correlated, and the status quo of nurses' career planning is negatively correlated with their turnover intention. Zhang (2016) took the new employees with at least a bachelor's degree within three years of university graduation as the research objects. She adopted factor analysis, correlation analysis and regression analysis to explore the impact of career management on the turnover intention of new employees, and found that the dimensions of promotion fairness, offering of professional information, focus on training, and employee self-awareness have a significant negative impact on the turnover intention of new employees. Zhu (2009) adopted literature analysis, structured interview, open questionnaire, and closed questionnaire to survey about the turnover intention and career of 230 middle-aged knowledge workers in eight representative state-owned enterprises in Chongqing and found that middle-aged knowledge-based employees whose career is in a rising stage are more inclined to have turnover intention than the those whose career is in a stable stage. The reasons for turnover intention of middle-aged knowledge workers mainly lie in four levels of individual, work, organization and environment. Huang (2011) studied the impact of internal career growth and external career growth of the sales staff on their turnover intention and found that the career growth of the sales staff has a negative correlation with turnover intention. When the external career growth of the sales staff is low, the internal career growth is still negatively correlated with the turnover intention, realizing a and the synergistic effect of external career growth.

From the perspective of mechanism, some scholars believe that when the organizational career is matched with the individual career planning, the individual will be more willing to stay in the enterprise and their turnover intention will decrease. Granrose and Portwood (1987) found that the match between organizational career management and employee personal career planning can increase employee willingness to stay in the enterprise. When employees think that the career planning scheme designed by their enterprise is not attractive, they are likely to be attracted by enterprises with better job opportunities. Xu (2007) found that the gap

between the needs of organizational career management practice and perceived support has a positive impact on turnover intention, and the matching gap between career path preference and career path opportunity perception also has a positive impact on turnover intention.

For different industries in the Chinese context, a large number of empirical studies have also verified the negative correlation between turnover intention and career management. Zhang (2003) conducted research on the turnover intention of IT industry employees in Xi'an and the results show that career growth and promotion opportunity in organizational career management have an indirect impact on turnover intention through job satisfaction and organizational commitment. Zhang (2004) conducted an empirical study on the turnover motivation of professional managers of private enterprises in Guangdong and found that promotion fairness and career development opportunities are the most important factors affecting employees' turnover intention and providing sufficient promotion opportunities and career growth for employees is one of the important strategies to reduce the turnover rate. Li (2010) and Fu (2013) carried out research on the influencing factors of career management of large commercial banks through quantitative methods and clearly pointed out that the turnover intention of employees in large (state-owned) commercial banks is a direct result of the organizational career management.

In view of this, this study proposes the hypothesis H1: organizational career management has a significant negative correlation with turnover intention of clinicians.

2.5.2 Relationship between organizational career management and organizational commitment

As the two important factors affecting individual turnover intention, the Western and Chinese scholars have conducted a series of studies on the relationship between organizational commitment and organizational career management. In the study of Western scholars, the relationship between the two can be divided into two categories. One category of scholars believe that there is no correlation between organizational commitment and organizational career management. James (1987) carried out a study on the impact of organizations on individual career beliefs and attitudes and found that the match between individual career planning and organizational career planning is correlated with employee job satisfaction and turnover intention, but participation in a formal career management planning does not show an impact on organizational commitment. Sturges, Guest, Conway and Davey, (2002) studied the relationship between career management and organizational commitment

of employees in the first decade after graduation but did not identify a direct relationship between the two.

Another category of scholars believe that organizational career management has a significant positive impact on organizational commitment. Aryee (1994) studied the content of master-apprentice career guidance in organizational career management measures and its impact on job commitment (including organizational commitment and career commitment) and career satisfaction and found that groups with master-apprentice guidance are significantly better than groups without master-apprentice guidance in terms of organizational commitment, job involvement, career commitment, and job satisfaction. Through empirical research, Appelbaum (1994) found that the training guidance of the career management has a significant positive correlation with organizational commitment, but there was no evidence proving the correlation between other dimensions of organizational career management and organizational commitment. Paul (2004) studied Indian programmers and found that human resource management activities such as occupational environment, career development and organizational career planning can significantly improve individual organizational commitment. It is believed by the author that the above differences are because the research objects are from different industries.

The conclusions of Chinese scholars are more uniform, and most of the research conclusions demonstrate a positive correlation between organizational commitment and organizational career management. Long, Fang and Ling (2002) conducted an empirical study on the organizational career management and the effectiveness of enterprises in China and found that organizational career management has a positive impact on organizational commitment, job involvement, job satisfaction, and job performance. Ou (2004) randomly distributed questionnaires to employees of different industries in Guangdong, and found that the career coaching, career information, institutional guarantee, and supervisor support of organizational career management have significant positive correlation with organizational commitment and job satisfaction. Xiao (2006) proposed that the satisfaction of organizational career management also has a significant impact on organizational commitment, that is, the more satisfied employees are with organizational career management, the higher their loyalty will be. Xu (2007) carried out research on nurses and found that individual self-assessment, information provision, and career goals are conducive to improving organizational commitment of individuals. Gui (2008) conducted research on different enterprises in Hangzhou, Shanghai, Beijing and Shenzhen, and the results show a positive correlation

between organizational career management and organizational commitment. Cai, Feng and Wang (2013) took 600 clinical nurses from four level 3A hospitals as the research objects and used two-stage stratified random sampling method to understand the relationship between career management and organizational commitment of nurses in tertiary hospitals. Research shows that the organizational career management and its dimensions have significant positive correlation with organizational commitment. Regression analysis shows that after controlling demographic variables, organizational career management can independently predict 21% of the organizational commitment. Gui (2009) conducted a study on the relationship between organizational career management and organizational commitment to state-owned, private, and foreign-funded enterprises in Beijing, Shanghai, Guangzhou, and Hangzhou, and found that organizational career management and employee retention are positively related and organizational commitment plays a significant mediating role in organizational career management and employee retention. Based on the theory of social identity, Li and Li (2016) analyzed the relationship between self-career management, on-the-job embeddedness, professional identity and organizational commitment of technology talents, and found that technology talents paying attention to self-career management have higher organizational commitment. The self-career management of technology talents with high professional recognition has a significant positive impact on their organizational commitment. Liu (2012) believes that organizational career management has a significant positive impact on job satisfaction and organizational commitment, that is, the higher the organizational career management level, the higher the employees' job satisfaction and organizational commitment. Liu (2011) conducted an empirical study on the relationship between organizational career management and organizational commitment and found that there is a significant positive correlation between them. Wang (2014) took knowledge workers as an example to analyze the influencing mechanism of organizational career management on organizational commitment and found that improving organizational commitment of knowledge workers can improve organizational career management ability. Fan (2011) analyzed the relationship between career management, organizational commitment and job performance of 142 knowledge workers in enterprises in Wuhan to conclude that the dimensions of career management of knowledge workers have a significant positive correlation with the dimensions of organizational commitment. Among them, promotion fairness, focus on training, offering of information and professional cognition have a significant positive effect on employee organizational commitment.

According to the classical study by Meyer and Allen (1984), organizational commitment includes three dimensions: affective commitment, continuance commitment, and normative. From the perspective of mechanism, some Chinese scholars believe that the organizational career management mainly affects the affective commitment, and the mediating variable is the sense of organizational support. Liu (2007) carried out an empirical study on knowledge workers and found that organizational career management has a significant positive impact on affective commitment; the sense of organizational support plays a mediating role in the impact of organizational career management on affective commitment. Zhang (2009) took the hotel industry as an example and found that organizational career management has an important positive impact on employees' career commitment, organizational commitment, job involvement, job performance and job satisfaction. Yan (2010) carried out research on catering staff and found that organizational support plays a mediating role in the relationship between organizational career management and affective commitment, and organizational career management has a direct impact on normative commitment and continuance commitment. There are also some Chinese scholars who believe that organizational career management can affect organizational commitment through job satisfaction. Liu (2010) considered job satisfaction as the mediating variable to study the relationship between organizational career management and organizational commitment and that organizational career management can directly affect organizational commitment or indirectly affect it through job satisfaction.

In view of this, this study proposes hypothesis H2: organizational career management has a significant positive correlation with organizational commitment of clinicians.

2.5.3 Relationship between organizational career management and career growth

There is relatively little research on the relationship between career growth and career management. Weng and Bian (2015) elaborated the relationship between organizational career management and career growth from the perspective of the matching theory. Organizational career management has two functions of career guidance and career support, both of which can enhance the fit of person and organizational values and the fit of person and job requirements. On the other hand, values fit can change employees' job performance and interpersonal relationship by affecting their attitudes and behaviors, and thus promote their career growth; The person-job fit can enhance employees' adaptability to work and career, and generate positive development behaviors so as to achieve high job performance and promote

career growth of employees. Therefore, organizational career management is positively correlated with career growth. Ren (2018) explained the relationship between organizational career management and career growth from another perspective. First, the organization provides employees with corresponding training to promote their knowledge and skills, improve their work ability, and accelerate the achievement of career goals and organizational returns. Secondly, the organization's career guidance featuring "masters leading the apprentices" can ensure that employees get necessary information feedback in their work and promote their career development. Empirically, Yue (2005) conducted a questionnaire survey of employees in developed cities such as Beijing, Shanghai, and Hangzhou, which proved that there is a significant positive correlation between employee career growth and organizational career management.

In view of this, this study proposes hypothesis H3: organizational career management has a significant positive correlation with career growth.

2.5.4 Relationship between turnover intention and organizational commitment

Organizational commitment has long been recognized as an important influencing factor of turnover intention or turnover behavior. Becker (1960) argues that employees with high-level organizational commitment have low turnover intention, high job involvement and active participation in various organizational activities. It is believed that organizational commitment is negatively correlated with turnover intention. Porter and Steers (1974) found that organizational commitment is a good predictor of turnover intention. The higher the organizational commitment of employees is, the lower the turnover rate will be, and the lower the organizational commitment is, the higher the turnover rate will be. Atchison and Lefferts (1972) empirically prove that the clear willingness to stay in the organization and the commitment have a strong negative correlation with employee turnover. Namely, employees who have a high commitment to the organization and are willing to put more efforts to achieve organizational goals tend to stay in the organization to help it achieve goals. Porter and Steers (1974), Steers (1977), Mowday (1979), Michaels, and Spector (1982) also empirically demonstrate a significant negative correlation between organizational commitment and turnover, that is, the higher the organizational commitment, the lower the turnover intention. In China, Liu and Wang (2002) also found that organizational commitment of employees has a significant negative impact on turnover intention. Su and Zhao (2005) constructed a structural equation model for multiple latent variables such as employee

organizational commitment and turnover intention. The study found that there is a significant negative correlation between employee organizational commitment and turnover intention.

In fact, there is substantial research in Western countries that explores the question of "which can better predict turnover intention, is it organizational commitment or job satisfaction". A large number of scholars agree that organizational commitment has a good predictive effect on employee turnover (Mowday, Porter, & Steers, 1982; Mathieu & Zajac, 1990; Wasti, 2003), and organizational commitment is an indicator that can better explain turnover intention compared with job satisfaction (Mu, 2007), because organizational commitment is a more lasting and stable evaluative response, while job satisfaction is only a brief emotional response to a particular job (Porter & Steers, 1974).

Most scholars agree that affective commitment is the most relevant dimension of organizational commitment to turnover intention. Allen and Meyer (1997) found that the various dimensions of organizational commitment have different effects on individual behavior, and the affective commitment, continuance commitment, and normative commitment have different degrees of impact on turnover. Among them, the correlation of affective commitment with turnover is the most significant, and factors such as career development stage and individual characteristics will regulate the impact of organizational commitment on turnover intention. Weng and McElroy (2012) view organizational commitment as a psychological link that can reduce the likelihood of voluntary turnover. Urbonas, Kubilienė, Kubilius, & Urbonienė (2015) argue that organizational commitment has a negative impact on turnover intention and can significantly reduce employee turnover intention. The impact of affective commitment and continuance commitment on turnover intention is significantly greater than the that of normative commitment.

From a cultural perspective, different cultures regulate the impact of organizational commitment on turnover intention. First, different types of corporate culture have an impact on the relationship between organizational commitment and turnover intention. For example, there is a logical relationship between learning culture and organizational commitment and turnover intention (Balfour & Wechsler, 1996; Fu, 2005; Alexandrov, 2007; Joo, 2008; Rigas, 2009; Hsu, 2009). Qu (2013) believes that by creating a good learning culture and offering job or program opportunities that are conducive to the development of individuals, the organization can improve the work skills and work enthusiasm of individuals, change their attitude towards work, enhance their psychological dependence on and loyalty to the organization, and ultimately reduce turnover intention of employees. In her research on the

impact of corporate culture on the organizational commitment of knowledge workers, Lei (2008) pointed out that employee-oriented culture is positively correlated with affective commitment and continuance commitment, while task-oriented culture is negatively correlated with affective commitment and continuance commitment. This difference is mainly caused by the differences of the two types of culture in terms of focus of attention, guiding ideology, employee attitude and view of interests.

In addition, industry culture also has an impact on the relationship between organizational commitment and turnover intention (Hsu, 2009). Sun (2010) conducted research on the hotel industry and found that three factors of goal and vision, teamwork and autonomous participation in the corporate culture of the hotel industry have a significant negative impact on the turnover intention, and this correlation is realized through the mediating role of affective commitment in the organizational commitment. According to Liu and Wang (2002), the corporate culture of foreign-funded enterprises has a close relationship with economic exchange, and the corporate culture of state-owned enterprises has a significant impact on affective commitment.

Empirical studies in Asian countries and regions have reached similar conclusions. Aryee and Leong (1991) conducted a study on professional accountants in Singapore, and the results showed that there is a significant negative correlation between organizational commitment and turnover intention. Tsai (2000) systematically reviewed 28 doctoral and master theses in Western countries and Taiwan and found that there is a significant negative correlation between organizational commitment and turnover intention, and the correlation coefficients of each dimension of organizational commitment and turnover intention are roughly the same.

In China's special circumstances, a large number of empirical studies have also begun to examine the relationship between organizational commitment and turnover intention (Ye, 2005; Han & Liu, 2009). Fu, Ling and Fang (2002) believe that both job satisfaction and organizational commitment have a direct negative impact on turnover intention, and they are the intermediary factors in the impact of other variables on turnover intention. Zhao, Liu, and Zhang (2003) found that the organizational commitment of employees is negatively correlated with turnover intention, and the organizational commitment has a direct negative impact on the employees' turnover intention. The affective commitment is the key factor affecting turnover. Higher affective commitment means stronger affective dependence of employees to recognize the organization and be willing to become a member of it. Factors affecting affective commitment include: the difficulty of work objectives, acceptance of new

viewpoints and new ideas by the management, kinship between colleagues, organizational fairness, and the importance of individuals. Liu, Liao, and Li(2006) found through a questionnaire survey of employees from six state-owned enterprises of different sizes in Wuhan that affective commitment has the greatest impact on employee turnover intention and can be considered as a crucial influencing factor.

In order to eliminate the influence of industry characteristics on the relationship between the two variables, a large number of Chinese scholars have conducted empirical tests on different industries. With research objects of knowledge workers (Wang & Chen, 2011), university student village officials (Chen, 2014), civil servants (Wang, 2015), tour guides (Wang, 2010) or travel agency employees (Hong & Li, 2016), it has been proved that there is always a negative correlation between organizational commitment and turnover intention. Similar to the research object of this thesis, Yin, Zhou, Jia, Wang, and Zhao (2012) conducted a study on male nurses in eight tertiary hospitals. The results also showed that organizational commitment is negatively correlated with turnover intention, while psychological capital plays a mediating role in the impact of organizational commitment on turnover intention. Fu, Pan and Peng (2008) regarded organizational commitment as an intermediary mechanism to explore the impact of person-organization fit on employee turnover intention and found that the higher the organizational commitment, the lower the employee's intention to leave, and in addition to the important influence of person-organization fit on employee's turnover intention, affective commitment and normative commitment also played a key role. Based on the theory of social exchange and organizational support, Jiang (2007) selected 263 employees of the Nanjing Branch of a commercial bank as the research objects and argued that both procedural fairness and distributive fairness can promote the generation of the sense of organizational support, and the sense of organizational support has a full mediating effect on organizational commitment and turnover intention, and organizational commitment is negatively correlated with employee turnover intention. Tian (2014) adopted the structural equation model to study the relationship between organizational justice, organizational commitment and turnover intention, and found that different dimensions of organizational commitment have a significant negative impact on turnover intention, and the impact of affective commitment and continuance commitment on turnover intention is significantly greater than the impact of normative commitment.

Chen and Zhang (2010) selected 480 employees as research objects to carry out an empirical study and found that transformational leadership has a negative impact on employee

turnover intention, but organizational commitment is the mediating variable that has negative impact. Weng and Xi (2013) conducted a study on the relationship between career growth, organizational commitment and turnover intention of enterprise employees in industrial clusters and concluded that the dimensions of career growth and organizational commitment have a significant negative impact on turnover intention. The predictive effect of career growth and organizational commitment on turnover intention is significantly different inside and outside the industrial clusters. Huang and Chen (2009) believe that there is a significant negative correlation between the dimensions of organizational commitment of core talents of technology start-ups and their turnover intention. The ideal commitment and economic commitment have a strong predictive effect on turnover intention. Liu, Tang and Liu (2010) surveyed 201 middle school teachers and found that 66.7% of middle school teachers have low overall job satisfaction, middle school teachers have medium level of organizational commitment, and older teachers have lower turnover intention. There is a negative correlation between job satisfaction, organizational commitment and turnover intention of middle school teachers. In addition, the most important factor affecting the turnover intention of middle school teachers is affective commitment.

Jiang (2008) conducted a questionnaire survey of 242 employees in four enterprises and used SPSS15.0 and AMOS5.0 software to perform statistical analysis on the questionnaire data. It was found that there is a significant negative correlation between organizational commitment and turnover intention. Affective commitment and continuance commitment have a significant impact on turnover intention, and the impact of affective commitment is greater. Affective commitment and continuance commitment play a full mediating role in the impact of procedural fairness on turnover intention. Lu and Zhang (2012) took 276 preschool teachers as the research objects. Through empirical analysis, it was found that the overall job satisfaction, organizational commitment and turnover intention of preschool teachers are not high, their job satisfaction and organizational commitment are negatively correlated with turnover intention, and the predictive ability of organizational commitment for turnover intention is greater than the predictive ability of job satisfaction.

Pan (2008) used questionnaire survey data to analyze the differences between subjective well-being, organizational commitment and turnover intention of enterprise knowledge workers. Among them, subjective well-being includes ten dimensions such as contentment, mental health, social confidence, growth and progress, goal value, self-acceptance, physical health, mental balance, interpersonal adaptation, and family atmosphere. Organizational

commitment includes three dimensions of affective commitment, normative commitment, and continuance commitment. It is found that subjective well-being has a significant positive correlation with organizational commitment, and it has a certain impact on organizational commitment; subjective well-being has a significant negative correlation with turnover intention and has a certain predictive effect on turnover intention. In addition, subjective well-being also affects turnover intention through organizational commitment. Organizational commitment has a significant negative correlation with turnover intention, and has a certain predictive effect on turnover intention, and its predictive effect is stronger than that of the subjective well-being. The most important dimensions affecting turnover intention of enterprise knowledge workers are normative commitment and target value experience, followed by growth and progress experience, continuance commitment, mental health experience, affective commitment, and contentment experience. Zhang (2008) studied the relationship between career decision-making self-efficacy, organizational support, organizational commitment and turnover intention, and found that there is a significant positive relationship between employee career decision-making self-efficacy, organizational support and organizational commitment, and there is a significant negative correlation between employee career decision-making self-efficacy, organizational support and organizational commitment and turnover intention.

In view of this, this study proposes hypothesis H4**:** organizational commitment has a significant negative correlation with turnover intention of clinicians.

2.5.5 Relationship between career growth and turnover intention

There is little research on the relationship between career growth and turnover intention, but much research on the influence of career growth on turnover intention. Weng and Hu (2009) and Weng and Xi (2013) conducted a questionnaire survey on employees and found that career growth had a significant negative impact on turnover intention; through analysis of the questionnaire of 961 employees, Weng and Xi (2010) found that career growth has a strong predictive effect on turnover intention. The career goal progress, career ability, career commitment, and promotion speed included by career growth all have a significant impact on turnover intention; Fan (2013) argued that career growth can reduce employees' turnover intention; Huang (2011) argued that the internal career growth and external career growth of sales are significantly negatively correlated with turnover intention; Li, Lv, and Xiong (2012) believe that career growth has a negative impact on employee turnover intention; Qu (2015)

carried out empirical research and found that the main dimension indicators included in career growth such as career goal progress, career ability, and job promotion speed have a significant negative correlation with turnover intention; Dai, Jia, and Zhang (2016) took nurses as the research object and found that career growth of the nurses is a negatively correlated with turnover intention; Sun and Zhang (2016) took high-level medical talents as the research object and found that career growth has a negative impact on turnover intention; Wei (2017) believes that the dimensions of career growth have a negative regulating effect on turnover intention.

In view of this, this study proposes hypothesis H5**:** career growth has a significant negative correlation with turnover intention of clinicians.

2.5.6 Relationship between career growth and organizational commitment

The research on the relationship between career growth and organizational commitment has become a hot topic and has also formed some valuable research conclusions. Alvi and Ahmed (1987) took employees of Pakistani enterprises as an example and found that that employee career growth has a significant positive impact on organizational commitment; Liu and Wang (2001) and Long, Fang and Ling (2002) found that employee career growth has a positive impact on organizational commitment; Gao and Zhang (2016) believe that high employee career growth has a strong positive impact on organizational commitment; Zhang (2016) found that career growth is the endogenous demand of employees, and is positively correlated with organizational commitment; Sun and Zhang (2016) took high-level medical talents as the research object and found that career growth has a positive impact on organizational commitment.

In view of this, this study proposes the hypothesis H6**:** career growth has a significant positive correlation with organizational commitment of clinicians.

Apart from being affected by organizational career management, career growth is also a mediator in the impact of organizational career management on turnover intention of clinicians. Based on the theory of career management, Huang (2011) found that career growth plays a negative regulating role in the turnover intention of the sales; Zhang (2016) took the employees graduated from the university within three years as the research object and found that different dimensions of corporate career management, including fair promotion, offering of occupational information, focus on employee training, and employee professional self-awareness, have a significant negative impact on the turnover intention of new employees

within three years of graduation.

Therefore, this study proposes the hypothesis H7: career growth is a mediating variable in the impact of organizational career management on turnover intention of clinicians.

A large number of Chinese studies have also shown that organizational commitment plays a mediating role in the relationship between career management and turnover intention. Wang (2007) studied employees within three years of university graduation and found that if the organization attaches importance to the career management of employees, their organizational commitment level will be improved and their turnover intention will be further reduced. Hao (2016) studied the mediating role of affective commitment in organizational career management and turnover intentions and found that the dimensions of organizational career management perceived by employees have a significant negative impact on turnover intention, and except for the dimension of focus on training, other dimensions of organizational career management have a significant positive impact on affective commitment. Affective commitment plays a completely mediating role between promotion fairness and turnover intention, and a partially mediating role between employee self-cognition, career information communication and turnover intention.

Considering this, this study proposes hypothesis H8**:** organizational commitment is a mediating variable in the impact of organizational career management on turnover intention of clinicians.

Apart from being an antecedent variable of organizational commitment, career growth is also a mediating variable that plays a regulatory role. Liu (2007) found that employee career growth is a mediating variable that links organizational career management and employee organizational commitment (especially affective commitment), and organizational career management mainly affects employees' affective commitment through employee career growth; Zhang and Liu (2015) found that in the relationship between organizational culture and organizational commitment, career growth plays an incompletely mediating role; Zhou and Cao (2016) took enterprise employees of different provinces as an example and found that career growth plays a partially mediating role in the relationship between organizational support and organizational commitment.

In view of this, this study proposes hypothesis H9**:** career growth is a mediating variable in the impact of organizational career management on organizational commitment of clinicians.

2.6 Literature review and proposition of hypotheses

The above literature review shows that Chinese researchers have conducted extensive and in-depth research on the relationship between career management, career growth, organizational commitment and employee turnover intention and have achieved good results, but there are still certain problems explained as follows.

A. In terms of research objects and tools, most of the studies on turnover intention and career management in China are single organization sample survey, with few empirical studies based on large-scale population sampling, and the generalization of conclusion tends to be restricted by the sample size. Most of the scales used are literally foreign authoritative scales, and there are few modified versions based on the Chinese context and specific industry characteristics, resulting in results that are not necessarily accurate and credible.

B. In terms of research content, some studies have examined the relationship between turnover intention and career management with different samples. However, there are few studies with clinical medical personnel as research objects, and most of the research lacks analysis of background information of the samples. When studying the relationship between career management and turnover intention, most scholars explore the direct relationship between the two, and few analyze the conduction path between the two.

C. In terms of research methods, most of the studies are single-sample studies with descriptive statistics and simple statistical inferences. The selection of samples does not conform to the principle of random sampling, and the conclusions obtained cannot be generalized; most of the measurement methods are simple ordinary least square method, and the structure of the sample is not analyzed to see if it meets the application requirements of the ordinary least square method. If the samples do not meet certain assumptions of the least square method, higher-end measurement methods should be used for analysis.

On this basis and the above literature review, this thesis proposes nine hypotheses as follows:

H1: organizational career management has a significant negative correlation with turnover intention of clinicians.

H2: organizational career management has a significant positive correlation with organizational commitment of clinicians.

H3: organizational career management has a significant positive correlation with career

growth.

H4**:** organizational commitment has a significant negative correlation with turnover intention of clinicians.

H5**:** career growth has a significant negative correlation with turnover intention of clinicians.

H6**:** career growth has a significant positive correlation with organizational commitment of clinicians.

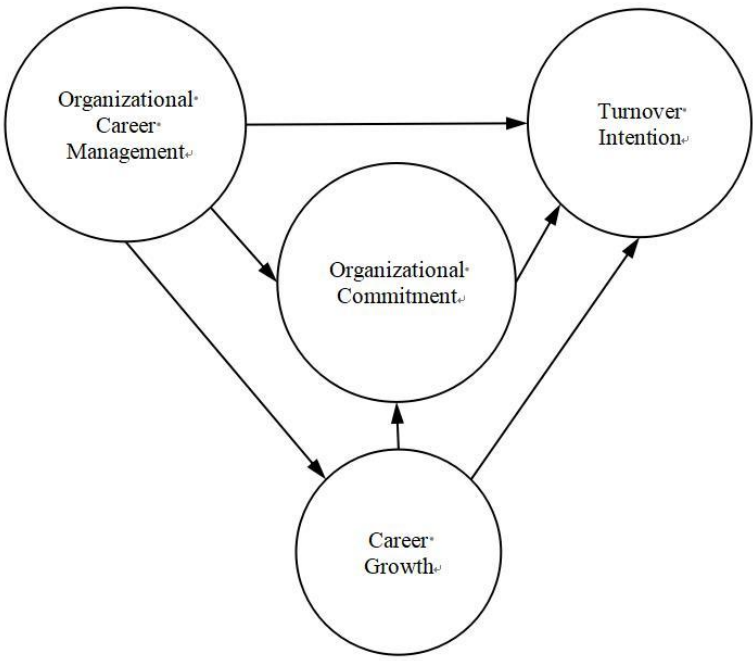
H7: career growth is a mediating variable in the impact of organizational career management on turnover intention of clinicians.

H8**:** organizational commitment is a mediating variable in the impact of organizational career management on turnover intention of clinicians.

H9**:** career growth is a mediating variable in the impact of organizational career management on organizational commitment of clinicians.

According to the above hypotheses, the relationship structure of organizational career management, career growth, organizational commitment and turnover intention is predicted as per Figure 2-1.

Figure 2-1 Logic relationship between organizational career management, career growth organizational commitment and turnover intention



2.7 Chapter summary

This chapter first comprehensively reviews the connotation of turnover intention, organizational commitment career management and career growth, relevant classical theories and the status quo of relevant research in China, as well as the structural dimensions and measurement methods of the four concepts. Secondly, the relationship between the four concepts is reviewed. Finally, it points out the shortcomings of the existing literature in the field of clinicians, proposes nine relevant hypotheses, and draws a structural relationship diagram between organizational career management, career growth, organizational commitment and turnover intention.

Chapter 3: Research Method

3.1 Object of study

The main object of study is the Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University, (the former Liwan Hospital of Guangzhou Medical University) (Level 2A). Considering the impact of hospital level on the behavior and psychology of clinicians, another two hospitals, the Liwan District People's Hospital of Guangzhou (Level 2A) and the Third Affiliated Hospital of Guangzhou Medical University (Level 3A), are added for comparison.

The Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University has 779 employees. Among them, there are 706 professional and technical personnel, and 73 administrative and supporting personnel. In the professional and technical personnel, there are 289 doctors, accounting for 37.10% of the total number of hospital staff. At present, there are 501 open beds, 40 clinical departments, 30 specialized clinics and 23 specialist clinics. The average annual emergency service volume of the hospital is about 700,000 person-times, the daily average outpatient volume is about 2,300 person-times, the annual hospitalization service volume is more than 20,000 person-times, the hospitalization operation volume is 4,578 person-times, and the 120 first-aid vehicle service volume is more than 4,200 times every year, which is among top ten in Guangzhou.

The Liwan District People's Hospital of Guangzhou has 447 employees. Among them, there are 354 professional and technical personnel and 93 administrative and supporting personnel. In the professional and technical personnel, there are 202 doctors, accounting for 45.20% of the total number of hospital staff. Currently there are nearly 400 open beds.

The Third Affiliated Hospital of Guangzhou Medical University has 2,130 employees. Among them, there are 1,874 professional and technical personnel and 256 administrative and supporting personnel. In the professional and technical personnel, there are 550 doctors, accounting for 25.82% of the total number of hospital staff. The hospital has 1,000 beds with 48 clinical departments and 10 medical technology departments. The annual outpatient and emergency volume exceeds 2 million person-times, and the number of patients discharged from the hospital is more than 45,000 person-times.

The clinicians of the above three hospitals are selected as the research objects of this study. The questionnaire survey group invites an administrative senior executive in each hospital as the main participating contact of the study. After receiving the questionnaires from the research group, according to the standards of clinicians determined by the research groups, the contacts of each hospital distribute questionnaires within their respective hospitals. After all the questionnaires are completed, the contacts are required to collect the questionnaires and send them back to the research group.

3.2 Questionnaire index design and research method

According to the theoretical framework shown as per Figure 2-1, the important variables measured in this study include career management, career growth, organizational commitment and turnover intention. This research questionnaire consists of five parts: basic information, career management, career growth, organizational commitment, and turnover intention. In the specific design of the questionnaire, taking into account the differences between Chinese and Western cultures, this study refers to questionnaires designed by Chinese scholars, and also integrates the classic questionnaires designed by Western scholars. The definition of variables and the specific design of the questionnaire are as follows.

3.2.1 Organizational career management

Organizational career management refers to the process by which an organization selects, evaluates, assigns, and develops employees to provide a group of qualified individuals to meet future development needs (Milkovich & Boudreau, 1991).

As for the measurement of organizational career management, this study refers to the questionnaire design of Long, Fang and Ling (2002). A total of 22 items in this section are divided into four dimensions, which measures the “fair promotion”, “focus on training”, “employee self-cognition” and “information communication”. It is believed that the rule of “promotion according to seniority” is still implicitly prevalent in the Chinese clinician promotion system (Mao, 2012), the promotion space for clinicians is greatly reduced, and it is easier for clinicians who work in hospitals paying more attention to “fair promotion” to make their career planning. Fair promotion has become the most important dimension for clinicians among the four dimensions. Therefore, the six questions under the “fair promotion” dimension of Long et al. (2002) are adopted to measure organizational career management.

The specific questions are as follows.

1. The hospital promotes medical staff with good performance.

2. The hospital promotes medical staff according to achievements.

3. The hospital promotes medical staff according to capability.

4. The hospital offers fair competition opportunities to every medical personnel.

5. The hospital has clear promotion standards.

6. The hospital reviews medical staff in public.

By requesting the respondents to fill in their recognition of the above descriptions, the research group can obtain their organizational career management. The scale adopts the Likert 5-point scoring method. Choices from "strongly disagree" to "strongly agree" are rated from one to five points, and the overall career management is reflected by the average score of the items finally selected after screening of reliability and validity tests. The higher the score, the stronger the organizational career management of the respondents.

3.2.2 Career growth

Career growth refers to the speed of career progress of employees in the enterprise, including the speed of career objectives progress, the speed of career competence development, and the speed of career opportunity development (Weng & Xi, 2011).

As for the measurement of career growth, this study refers to the questionnaire designed by Weng and Hu(2009). A total of 10 items in this section are divided into three dimensions that respectively measure the "vocational ability", "career progress" and "promotion prospect" of the respondents. It is believed that clinicians need a certain amount of knowledge reserve, as professional knowledge is a rigid requirement for their career growth, so "vocational ability" and "career progress" are relatively more important than "promotion prospect". In addition, questions in "promotion prospect" are similar to those in "fair promotion" of organizational career management. If the two sets of questions are both included in the questionnaire, it may lead to misunderstanding of the respondents. Therefore, the seven questions under the dimensions of "vocational ability" and "career progress" in the questionnaire of Weng and Hu(2009) are adopted to measure career growth. The specific questions are as follows.

1. The current work makes me one step closer to my career objective.

2. The current work is related to my career objective and career growth.

3. The current job has laid the foundation for the realization of my career objective.

4. The current work provides me with better development opportunities.

5. The current work has prompted me to master new work-related skills.

6. The current work has prompted me to keep abreast of new work-related knowledge.

7. The current work has prompted me to accumulate more work experience.

By requesting the respondents to fill in their recognition of the above descriptions, the research group can obtain their career growth. The scale adopts the Likert 5-point scoring method. Choices from "strongly disagree" to "strongly agree" are rated from one to five points, and the overall career growth is reflected by the average score of the items finally selected after screening of reliability and validity tests. The higher the score, the stronger the career growth of the respondents.

3.2.3 Organizational commitment

Organizational commitment is a psychological contract of the individual to the organization and is a long-term stable state of mind of individuals to remain in the original organization (Meyer & Allen, 1991; Stevens, Beyer & Trice, 1978; Meyer, Allen & Smith, 1993).

As for the measurement of organizational commitment, this study refers to the questionnaire design of Ling, Zhang and Fang (2001). The 25 items in this section are divided into five dimensions, namely, measurement of the "affective commitment", "normative commitment", "ideal commitment", "economic commitment" and "opportunity commitment". Among these five sub-commitments, "normative commitment", "economic commitment" and "opportunity commitment" are related to social ethics and labor market. "ideal commitment" is related to individual factors of doctors, and it is not very likely for hospitals to improve doctors' relevant scores through management activities. As for "affective commitment", the hospital can enhance the sense of belonging of the doctors through a series of management activities, so it is what hospitals are most concerned about and hope to improve (Gao, 2018). Therefore, the five questions under the "affective commitment" of the questionnaire designed by Ling et al. (2001) are adopted to measure organizational commitment. The specific questions are as follows.

1. Even if the hospital benefits are poor, I will not leave.

2. I have deep feelings for the hospital.

3. I would like to make any contribution to the hospital.

4. I would like to contribute all the efforts to the hospital.

5. I would like to contribute my spare time to the hospital.

By requesting the respondents to fill in their recognition of the above descriptions, the research group can obtain their organizational commitment. The scale adopts the Likert 5-point scoring method. Choices from "strongly disagree" to "strongly agree" are rated from one to five points, and the overall organizational commitment is reflected by the average score of the items finally selected after screening of reliability and validity tests. The higher the score, the stronger the organizational commitment of the respondents.

3.2.4 Turnover intention

Turnover intention reflects the intensity of the willingness of employees to leave their current jobs and find other job opportunities. Resignation is generally a rational decision made by employees after considering its impact on life, family, and future career. From a psychological point of view, turnover intention mainly refers to a kind of psychological state that employees show after comprehensive assessment and measurement of the problems related to turnover before they actually leave the job (Zhu & Qin, 2018).

As for the measurement of turnover intention, this study refers to the research of Hom, Griffeth, and Sellaro (1977), and Mobley (1977) and designs seven measurement items. 1. I am considering resigning the current work; 2.For the current work, sometimes I feel very bored and want to change a job; 3. I am looking for other jobs with the same nature as my current job; 4. I am looking for other jobs with a different nature; 5.With my current abilities and conditions, it is highly probable that I will find suitable positions in other organizations; 6. If there is a job vacancy for me in other organization, I am very likely to get the job; 7. I will resign my current job. By requesting the respondents to fill in their recognition of the above descriptions, the research group can obtain their turnover intention. The scale adopts the Likert 5-point scoring method. Choices from "strongly disagree" to "strongly agree" are rated from one to five points, and the overall turnover intention is reflected by the average score. The higher the score, the stronger the turnover intention of the respondents.

3.2.5 Basic information

Based on the review of the above questionnaires, this study examines the gender, age, marital status, number of children, education, working years, family monthly per capita

income, employment method, professional title, and length of service in the current hospital. The variables are as follows.

① Gender: male or female;

② Age: below 25, 26-35, 36-45, 46-55, and over 56;

③ Marital Status: married, unmarried, and other;

④ Number of Children: 1, 2, over 2, and none;

⑤ Educational Background: below junior college, junior college degree, bachelor's degree, master's degree, and doctoral degree;

⑥ Working Years: less than 1 year, 1-3 years, 4-5 years, 5-10 years, 11-20 years and over 20 years;

⑦ Family Monthly Per Capita Income: less than 5000 yuan, 5001-10000 yuan, 10001-15000 yuan, and more than 15000 yuan;

⑧ Employment Method: staffing of government affiliated institutions and contracted employees;

⑨ Professional Title: resident physician, attending physician, associate chief physician, chief physician, nurse, nurse-in-charge, associate professor of nursing, and professor of nursing;

⑩ Length of Service in the Current Hospital: less than 5 years, 6-10 years, 11-15 years, 15-20 years and more than 21 years.

3.3 Data collection

In order to ensure the reliability and effectiveness of the research results, this study conducts a three-stage questionnaire on the clinicians. First the questionnaire is designed based on the research problem and research theories. On this basis, a preliminary survey is carried out before the questionnaires are formally distributed to the Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University (Level 2A), the Liwan District People's Hospital of Guangzhou (Level 2A) and the Third Affiliated Hospital of Guangzhou Medical University (Level 3A). The intelligibility, acceptability, comprehensiveness, authenticity, scientificity and rationality of each item in the questionnaire are considered to adjust and improve the questionnaire so as to form the final version of questionnaire. A total of 1,969 questionnaires are distributed, and 1,670 are collected (of which 600 are distributed

in the Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University, and 532 are collected, see Table 3-1; 421 are distributed in the Liwan District People's Hospital of Guangzhou, and 389 are collected, see Table 3-2; 948 are distributed in the Third Affiliated Hospital of Guangzhou Medical University, and 750 are collected, see Table 3-3). After removal of the invalid questionnaires, there are in total 1644 valid questionnaires, and the valid rate is 83.5%.

Table 3-1 Statistics of personnel and beds of the three sample hospitals

Sample Hospital	Amount of Employees	Amount of Professional and Technical Personnel	Amount of Doctors	Open Beds
The Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University	779	706	291	501
The Liwan District People's Hospital of Guangzhou	447	354	203	400
The Third Affiliated Hospital of Guangzhou Medical University	2130	1874	550	1000

3.4 Research method

With three hospitals of Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University, the Liwan District People's Hospital of Guangzhou and the Third Affiliated Hospital of Guangzhou Medical University as the objects of study, and based on the theoretical hypotheses in Chapter Two, this thesis adopt the research methods combing logical analysis and quantitative analysis and the detailed analysis methods are as follows.

3.4.1 Theoretical logical analysis

Induction and deduction are two important methods of logical analysis. Inductive reasoning abstracts the general law from a large number of facts, that is, the construction of theory. Deduction is based on the abstract principle and analyzes a specific observed fact to verify the abstracted principles. This thesis combines the above two kinds of reasoning. Firstly,

it reviews and summarizes the previous research through inductive methods and builds a relationship model of organizational career management, organizational commitment, career growth and turnover intention. Then it adopts the deductive method to propose hypotheses to verify the correctness of the model of three case hospitals.

3.4.2 Literature review method

This study retrieves literature on career management, organizational commitment, career growth, and turnover intention in databases such as CNKI, Googlescholar, Jstor, Elsevier, and Wanfangdata, including forms of journal articles, reviews, research reports, and case studies. More than 500 articles and more than 40 books are referred to. Review of substantial previous research, on the one hand, helps sort out the important conclusions and research ideas of previous scholars, on the other hand, helps understand the progress in related fields, which lays a solid foundation for the theoretical construction of this research. In addition, the content of the literature review and related results provide reference for the design and revision of the questionnaire. The existing knowledge is also helpful to explain the results of the data analysis.

3.4.3 Questionnaire survey method

This thesis adopts a cross-sectional survey of current conditions to study clinicians of the three case hospitals and the questionnaire designs are shown in 3.2.

3.4.4 Data analysis method

This study uses SPSS 22 and AMOS 24 for data collation and analysis and the statistical analysis methods are as follows.

Reliability analysis: Reliability analysis is an analytical method for testing the credibility of a questionnaire. There are four main reliability analysis methods, namely, the test-retest reliability method, the alternate-form reliability method, the split-half reliability method, and the Cronbach's α reliability method. Cronbach's α coefficient is used in this research to perform reliability analysis of the scale so as to assess the internal consistency of the scale. In general, a coefficient greater than 0.7 indicates that the scale reliability is acceptable, and a coefficient greater than 0.8 indicates that the scale reliability is good.

Validity analysis: Validity analysis is an analytical method that analyzes whether a scale can accurately measure things. This study uses factor analysis to analyze the validity of the

scale. The main function of factor analysis is to extract some common factors from the data of the scale to see if the scale can measure a certain structure that the researchers envisioned when designing the questionnaire. This study will also use the KMO fitness test and Barlett's sphericity test to determine whether the scale meets the factor analysis conditions. In general, a KMO value above 0.9 means good fit.

Statistical Description: This study uses the maximum, minimum, mean, and standard deviation to statistically describe career management, organizational commitment, career growth, and turnover intention.

Correlation analysis: Correlation analysis refers to the analysis of the closeness and correlation of two factors. This study will use Pearson correlation coefficient for analysis.

Difference analysis: For those with two types of groupings, the levene test method is adopted to test the homogeneity of the variance of the samples. If the variance is homogeneous, the t statistic and P value under the assumed homogeneity is adopted; if the variance is not homogeneous, the t statistic and P value under the non-assumed homogeneity is adopted. For those with more than two types of groupings, the Kruskal-Wallis test method is used to test whether the samples are identically distributed. If they are not identically distributed, Dunnett T3 is used to test the difference between the groups. If they are identically distributed, the Duncan method is used to examine the differences between the groups.

Structural Equation Model Construction: Structural equation model is a method for testing causality models and has the following advantages: First, the structural equation model can contain both overt and latent variables. The four important variables in this study are precisely latent variables; second, the structural equation model can process multiple dependent variables simultaneously, and the result is more accurate; third, the structural equation model allows the independent variables and dependent variables to contain measurement errors at the same time, which is more realistic. Based on the above advantages, this study will use the structural equation model to analyze the relationship of four important variables. Due to the complexity of the calculation of this method, this study intends to use AMOS 24 to calculate and test the coefficients. In addition, since the construction of the initial model is theoretically derived and has not been supported by the facts, it is necessary to test the rationality of the model construction from the survey data. The test indicators used in this study will be based on recommendations of Wu (2009): Chi-Square(X2)/degree of freedom (df)<5, root mean square error of approximation (RMSEA)<0.08, normal fit index

(NFI), relative fit index (RFI), incremental fit index (IFI), and comparative fit index (CFI) greater than 0.5, parsimony normed fit index (PNFI) greater than 0.5.

Chapter 4: Data Analysis

4.1 Analysis of basic characteristics of clinicians

A total of 680 valid questionnaires are collected, of which 249 are from the Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University, 172 are from Liwan District People's Hospital of Guangzhou, and 259 are from the Third Affiliated Hospital of Guangzhou Medical University, as shown in Table 4-1, Table 4-2, and Table 4-3.

Table 4-1 Distribution and collection status of turnover intention questionnaire for clinical medical staff of Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University

Serial Number	Department	Distributed	Collected
1	Operating Room	14	12
2	Orthopedics	11	11
3	Surgery	12	10
4	Oncology	8	8
5	Cardiology	15	13
6	ICU	8	8
7	Endocrinology	10	8
8	Pneumology and Gastroenterology	9	9
9	Nephrology	10	8
10	Neurology	11	7
11	Neonatology	12	8
12	Obstetrics	11	10
13	Gynecology	10	9
14	Pain Section One	5	4
15	Maternity Ward	10	6
16	Pain Section Two	10	6
17	Physical Examination	10	10
18	Pain Clinic	5	5
19	Dialysis Center	8	8
20	Supply Room	9	8
21	Endoscope Room	3	3
22	ECG Room	5	5
23	Ultrasonography	7	7
24	Pathology	5	5
25	Clinical Laboratory	10	5
26	Stomatology	8	8
27	Ophthalmology	5	5
28	Dermatology	3	3
29	Pediatrics	5	4
30	Outpatient Clinic	7	5
31	Psychology	4	4
32	Traditional Chinese Medicine	10	8
33	Emergency Department	10	9
34	Radiology	11	10
	In Total	291	249

Table 4-2 Distribution and collection status of turnover intention questionnaire for clinical medical staff of Liwan District People's Hospital of Guangzhou

Serial Number	Department	Distributed	Collected
1	Anesthesiology and Surgery	10	8
2	Cardiovascular Medicine	11	10
3	Pediatrics	15	8
4	Obstetrics and Gynecology	12	12
5	General Medicine	10	9
6	Rehabilitation	13	12
7	Surgery (dermatology and haemorrhoids)	13	11
8	Traditional Chinese Medicine Outpatient	8	8
9	Emergency Department	5	4
10	ICU	10	10
11	Radiology	8	8
12	Ophthalmology and Otorhinolaryngology	7	5
13	Stomatology	7	4
14	Medical Technology	10	10
15	Plastic Surgery	15	15
16	Supply Room	7	7
17	Physical Examination Center	8	5
18	Detention House Clinic	6	6
19	Functional Departments (Medical Staff)	15	10
20	Hedong Branch	13	10
	In Total	203	172

Table 4-3 Distribution and collection status of turnover intention questionnaire for clinical medical staff of Third Affiliated Hospital of Guangzhou Medical University

Serial Number	Department	Distributed	Collected
1	Reproductive Medicine	8	6
2	Emergency Department	8	5
3	Prenatal Diagnosis (Fetal Medicine)	4	4
4	E.N.T. Department	9	7
5	Dermatology	8	8
6	Ophthalmology	8	4
7	Traditional Chinese Medicine Clinic	6	5
8	Infectious Diseases Department	3	3
9	Psychiatry	3	3
10	Rehabilitation Medicine	2	0
11	Stomatology	14	14
12	Health Management	8	5
13	Plastic Surgery	6	5
14	Respiratory Medicine	13	12
15	Urology and Organ Transplantation Nurse Station	10	9
16	Nephrology	6	5
17	Cardiothoracic Surgery Department and Cardiology Department Nurse Station	8	4
18	Cardiovascular Medicine Department	15	14
19	Blood Purification Center	5	4
20	Neurology	10	10
21	Hematology Department and Endocrinology Department Nurse Station	8	6
22	General Surgery Section Two (Gastrointestinal Surgery and Breast Surgery)	6	5
23	General Surgery Section One (Hepatobiliary Surgery and Vascular Surgery)	8	6
24	Orthopedics Section One (Spine Surgery and Joint Surgery)	8	7
25	Gastroenterology, TCM, Dermatology, Oncology Nurse Station	8	8
26	Orthopedics Section Two (Traumatic Orthopedics and Joint Surgery)	7	7
27	Neurosurgery and Rehabilitation Nurse Station	16	15
28	Pediatric Ward	20	18
29	Obstetrics Section One	7	6
30	Obstetrics Section Two	9	8
31	Obstetrics Section Three	7	6
32	Gynecology Section Two and ENT Department Nurse Station	10	10
33	Gynecology Section One	5	4
34	Gynecology Section Three	8	6
35	General Department and Rheumatology and Immunology Department Nurse Station	8	8
36	Rheumatology and Immunology Department	5	5
37	General Department and Geriatric Medicine Department	7	7
	In Total	301	259

Table 4-4 Basic characteristics of whole sample clinicians

Attribute	Classification	Amount	% of Total Sample	Accumulative % of Total Sample
Hospital	Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University	249	36.6	36.6
	Liwan District People's Hospital of Guangzhou	172	25.3	61.9
	Third Affiliated Hospital of Guangzhou Medical University	259	38.1	100
Gender[a]	Male	340	51.2	51.2
	Female	324	48.8	100
Age[b]	Below 25	55	8.1	8.1
	26-35	268	39.6	47.7
	36-45	191	28.2	75.9
	46-55	143	21.1	97
	Over 56	20	3.0	100
Marital Status[c]	Married	492	73.9	73.9
	Unmarried	157	23.6	97.5
	Others	17	2.6	100
Amount of Children[d]	1	347	51.9	51.9
	2	108	16.1	68
	More than 2	8	1.2	69.2
	None	206	30.8	100
Educational Background[e]	Below college degree	12	1.8	1.8
	College degree	55	8.1	9.9
	Bachelor's degree	361	53.2	63.1
	Master's degree	198	29.2	92.3
	Doctoral degree	53	7.8	100
Working Years[f]	Less than 1 year	52	7.7	7.7
	1-3 years	97	14.3	22
	4-5 years	65	9.6	31.6
	5-10 years	141	20.8	52.4
	11-20 years	149	22.0	74.4
	More than 20 years	174	25.7	100
Family Monthly Income Per Capita[g]	Less than 5,000 yuan	102	15.1	15.1
	5,001~10,000 yuan	272	40.4	55.5
	10,001~15,000 yuan	146	21.7	77.3
	More than 15,000 yuan	152	22.6	100
Employment Form[h]	Staffing of government affiliated institutions	409	61.0	60.7
	Contracted employees	262	39.0	99.7
Professional Title[i]	Resident physician	276	42.1	42.1
	Attending physician	212	32.3	74.4
	Associate chief physician	138	21.0	95.4
	Chief physician	30	4.6	100
Length of Service in the Current Hospital[j]	Less than 5 years	241	35.6	35.6
	6-10 years	144	21.3	56.9
	11-15 years	85	12.6	69.5
	15-20 years	70	10.3	79.8
	More than 21 years	137	20.2	100

Notes: a. 16 respondents did not give their choices; b. 3 respondents did not give their choices; c. 14 respondents did not give their choices; d. 11 respondents did not give their choices; e. 1 respondents did not give their choices; f. 2 respondents did not give their choices; g. 8 respondents did not give their choices; h. 6 respondents did not give their choices; i. 24 respondents did not give their choices; j. 3 respondents did not give their choices.

Statistics show that the clinicians surveyed are nearly half men and half women, with men accounting for 51.2% and women 48.8%; in terms of age, the majority are in the 26-35 and 36-45 age groups, with 268 and 191persons respectively, accounting for 39.6% and 28.2%; in terms of marriage, the majority are married, accounting for 73.9%; in terms of the amount of children, the majority have one child, accounting for 51.9%; in terms of educational background, the largest group is those with a bachelor's degree, with 361 persons, accounting for 53.2%; in terms of working years, the distribution is rather even; in terms of family monthly income per capita, the majority are from 5001 to 10,000 yuan, accounting for 40.4%; in terms of employment form, the number of staffing of government affiliated institutions is greater than the number of contracted employees, with the former accounting for 61%; in terms of length of service in the current hospital, 35.6% of the respondents have been working in the current hospital for less than 5 years, accounting for the largest proportion. The specific sample structure is shown in Table 4-4.

4.2 Reliability and validity analysis of the questionnaire scales

4.2.1 Reliability and validity analysis of the organizational career management scale

First, in order to identify whether the sample data are suitable for factor analysis, the Bartlett's test of sphericity is performed on the data. The test value is 4342.694, $P < 0.001$, and the KMO value is 0.899 (> 0.70), indicating that the data are suitable for factor analysis. Second, the first order factor analysis is performed on the six items of organizational career management. Through principal component analysis, by taking the principal components with eigenvalue greater than one as the factor, a total of one common factor is extracted, so the common factor is retained. One common factor is extracted from six items, with a variance contribution rate of 80.349, and the factor loading is shown as per Table 4-5. Third, a reliability analysis of the organizational career management scale including item 1 to 6 is performed, with a Cronbach's α value of 0.951 (>0.70), indicating that the reliability analysis results of the organizational career management scale are satisfactory.

4.2.2 Reliability and validity analysis of the career growth scale

First, in order to identify whether the sample data are suitable for factor analysis, the Bartlett's test of sphericity is performed on the data. The test value is 5399.765, $P < 0.001$, and the KMO value is 0.926 (> 0.70), indicating that the data are suitable for factor analysis.

Second, the first order factor analysis is performed on the seven items of career growth. Through principal component analysis, by taking the principal components with eigenvalue greater than one as the factor, a total of one common factor is extracted, so the common factor is retained. One common factor is extracted from seven items, with a variance contribution rate of81.131, and the factor loading is shown as per Table 4-5. Third, a reliability analysis of the career growth scale including item 1 to 7 is performed, with a Cronbach's α value of 0.937 (>0.70), indicating that the reliability analysis results of the career growth scale are satisfactory.

4.2.3 Reliability and validity analysis of the organizational commitment scale

First, in order to identify whether the sample data are suitable for factor analysis, the Bartlett's test of sphericity is performed on the data. The test value is 2312.071, $P < 0.001$, and the KMO value is 0.844 (> 0.70), indicating that the data are suitable for factor analysis. Second, the first order factor analysis is performed on the five items of organizational commitment. Through principal component analysis, by taking the principal components with eigenvalue greater than one as the factor, a total of one common factor is extracted, so the common factor is retained. One common factor is extracted from five items, with a variance contribution rate of 71.766, and the factor loading is shown as per Table 4-5. Third, a reliability analysis of the organizational commitment scale including item 1 to 5 is performed, with a Cronbach's α value of 0.897 (>0.70), indicating that the reliability analysis results of the organizational commitment scale are satisfactory.

4.2.4 Reliability and validity analysis of the turnover intention scale

First, in order to identify whether the sample data are suitable for factor analysis, the Bartlett's test of sphericity is performed on the data. The test value is 3624.838, $P < 0.001$, and the KMO value is 0.875 (> 0.70), indicating that the data are suitable for factor analysis. Second, the first order factor analysis is performed on the seven items of turnover intention. Through principal component analysis, by taking the principal components with eigenvalue greater than one as the factor, a total of two common factors are extracted, wherein item 1, 2, 3, 4, and 7 share one factor, and item 5 and 6 share one factor. Since the turnover intention scale has only one dimension, item 5 and 6 are therefore discarded. Third, an exploratory factor analysis is performed again. Results show that KMO=0.898>0.70, and the Bartlett's test of sphericity can be passed, which meets the conditions for factor analysis; one common

factor is extracted from five items, with a variance contribution rate of 78.883. The factor loading is shown as per Table 4-5. Fourth, a reliability analysis of the turnover intention scale including item 1, 2, 3, 4 and 7 is performed, with a Cronbach's α value of 0.933 (>0.70), indicating that the reliability analysis results of the turnover intention scale are satisfactory.

Table 4-5 Factor analysis results of organizational career management scale, career growth scale, organizational commitment scale and turnover intention scale

Items	Factor Loading
Organizational Career Management Scale	
1. The hospital promotes medical staff with good performance.	.908
2. The hospital promotes medical staff according to achievements.	.919
3. The hospital promotes medical staff according to capability.	.941
4. The hospital offers fair competition opportunities to every medical personnel.	.877
5. The hospital has clear promotion standards.	.850
6. The hospital reviews medical staff in public.	.881
Career Growth	
1. I feel a step closer to my career objective with my current job.	.835
2. The current job is related to my career objective and career growth.	.900
3. The current job has laid a foundation for the realization of my career objective.	.929
4. The current job offers me good opportunities for my development.	.903
5. The current job prompts me to master new work-related skills.	.923
6. The current job prompts me to master new work-related knowledge.	.921
7. The current job prompts me to accumulate richer work experience.	.891
Organizational Commitment Scale	
1. Even if the economic performance of the hospital is poor, I will not leave.	.746
2. I have a deep affection for the hospital.	.829
3. I am willing to make any contributions to the hospital.	.909
4. I am willing to expend all my energies to the hospital.	.914
5. I am willing to devote my spare time to the hospital.	.828
Turnover Intention Scale	
1. I am considering quitting the current job.	.902
2. I feel bored with the current job and want to change jobs.	.875
3. I am looking for other jobs with the same nature as my current job.	.917
4. I am looking for other jobs with different natures compared with my current job.	.837
7. I will quit my current job.	.908

4.3 General description of the working conditions of the clinicians

The overall score of each scale of the study is the arithmetic mean of the measured values of the corresponding items, and the specific scores are shown in Table 4-6.

4.3.1 Organizational career management scale score description

As for the organizational career management scale of the clinicians, the maximum score is 5.00 points, the minimum score is 1.00 point, and the average score is (3.19±1.04) points. Among the items, the highest score falls in "the hospital has clear promotion standards" (3.37), and the lowest score falls in "the hospital promotes medical staff according to achievements" (3.07).

4.3.2 Career growth scale score description

As for the career growth scale of the clinicians, the maximum score is 5.00 points, the minimum score is 1.00 point, and the average score is (3.33±0.97) points. Among the items, the highest score falls in "the current job prompts me to accumulate richer work experience" (3.49), and the lowest score falls in "I feel a step closer to my career objective with my current job" (3.14).

4.3.3 Organizational commitment scale score description

As for the organizational commitment scale of the clinicians, the maximum score is 5.00 points, the minimum score is 1.00 point, and the average score is (3.00±1.03) points. Among the items, the highest score falls in "I have a deep affection for the hospital" (3.32), and the lowest score falls in "even if the economic performance of the hospital is poor, I will not leave" (2.61).

4.3.4 Turnover intention scale score description

As for the turnover intention scale of clinicians, the maximum score is 5.00 points, the minimum score is 1.00 point, and the average score is (2.26±1.06) points. Among the items, the highest score falls in "I feel bored with the current job and want to change job" (2.43), and the lowest score falls in "I am looking for other jobs with different natures compared with my current job" (2.10).

Table 4-6 Score of clinicians in organizational career management, career growth, organizational commitment, and turnover intention

Scale	Item	Amount	Max	Min	Mean	S
Scores of sub-scales						
Organizational Career Management	6	676	5.00	1.00	3.19	1.04
Career Growth	7	672	5.00	1.00	3.33	.97
Organizational Commitment	5	674	5.00	1.00	3.00	1.03
Turnover Intention	5	672	5.00	1.00	2.26	1.06
Organizational Career Management Scale						
The hospital promotes medical staff with good performance.			5.00	1.00	3.16	1.21
The hospital promotes medical staff according to achievements.			5.00	1.00	3.07	1.13
The hospital promotes medical staff according to capability.			5.00	1.00	3.13	1.16
The hospital offers fair competition opportunities to every medical personnel.			5.00	1.00	3.13	1.18
The hospital has clear promotion standards.			5.00	1.00	3.37	1.13
The hospital reviews medical staff in public.			5.00	1.00	3.31	1.10
In Total			5.00	1.00	3.19	1.04
Career Growth Scale						
I feel a step closer to my career objective with my current job.			5.00	1.00	3.14	1.14
The current job is related to my career objective and career growth.			5.00	1.00	3.37	1.06
The current job has laid a foundation for the realization of my career objective.			5.00	1.00	3.38	1.09
The current job offers me good opportunities for my development.			5.00	1.00	3.20	1.10
The current job prompts me to master new work-related skills.			5.00	1.00	3.36	1.07
The current job prompts me to master new work-related knowledge.			5.00	1.00	3.40	1.07
The current job prompts me to accumulate richer work experience.			5.00	1.00	3.49	1.05
In Total			5.00	1.00	3.33	.97
Organizational Commitment Scale						
Even if the economic performance of the hospital is poor, I will not leave.			5.00	1.00	2.61	1.33
I have a deep affection for the hospital.			5.00	1.00	3.32	1.17
I am willing to make any contributions to the hospital.			5.00	1.00	3.13	1.17
I am willing to expend all my energies to the hospital.			5.00	1.00	3.14	1.18
I am willing to devote my spare time to the hospital.			5.00	1.00	2.82	1.23
In Total			5.00	1.00	3.00	1.03
Turnover Intention Scale						
I am considering quitting the current job.			5.00	1.00	2.32	1.22
I feel bored with the current job and want to change a job.			5.00	1.00	2.43	1.25
I am looking for other jobs with the same nature as my current job.			5.00	1.00	2.24	1.19
I am looking for other jobs with different natures compared with my current job.			5.00	1.00	2.10	1.13
I will quit my current job.			5.00	1.00	2.19	1.16
In Total			5.00	1.00	2.26	1.06

4.4 Analysis of the differences of the working conditions of clinicians with different basic characteristics

This study adopts Levene test, independent sample test, Kurskal-Wallis test and analysis of variance to compare the differences of clinicians with different basic characteristics in organizational career management, career growth, organizational commitment, and turnover intention. For the basic characteristics with only two categories of classification (including gender and employment form), the levene test method is used to test homogeneity of variance of the samples. If the variance is homogeneous, the t statistic and P value under the assumed homogeneity of variance is used. If the variance is not homogeneous, the t statistic and P value under the non-assumed homogeneity of variance is used. For the basic characteristics with more than two categories of classification (including hospital, age, marital status, amount of children, educational background, working years, family monthly income per capita, professional title and length of service in the current hospital), Kruskal-Wallis test is used to identify whether the samples are identically distributed, if they are not identically distributed, Dunnett T3 will be used to test the differences between the groups; if they are identically distributed, the Duncan method will be used to test the differences between the groups.

1. Clinicians from different hospitals have differences in scores of organizational career management, career growth, organizational commitment, and turnover intention (organizational career management, $H=16.59$, $P<0.001$; career growth, $H=27.79$, $P<0.001$; organizational commitment, $H=4.42$, $P<0.05$; turnover intention, $H=8.90$, $P<0.001$). The organizational career management score, organizational commitment score and career growth score of the clinicians in the Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University and the Liwan District People's Hospital of Guangzhou are significantly lower than those of their counterparts in the Third Affiliated Hospital of Guangzhou Medical University; the turnover intention score of clinicians in the Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University and the Liwan District People's Hospital of Guangzhou is significantly higher than that of their counterparts in the Third Affiliated Hospital of Guangzhou Medical University.

2. There is no significant difference in the scores of the four variables between clinicians of different genders (organizational career management, $F=-1.28$, $P>0.05$; career growth, $F=-.075$, $P>0.05$; organizational commitment, $F=0.57$, $P>0.05$; turnover intention, $F=1.90$, $P>0.05$).

3. There is a significant difference in the scores of organizational career management, career growth, organizational commitment, and turnover intention among clinicians of different ages (organizational career management, $F=3.72$, $P<0.01$; career growth, $F=5.10$, $P<0.01$; organizational commitment, $F=5.47$, $P<0.001$; turnover intention, $F=3.48$, $P<0.01$). Clinicians from 36 to 45 years old has the highest turnover intention, which is significantly higher than that of clinicians in other age groups. Clinicians over 56 years old have the lowest turnover intention, which is significantly lower than that of clinicians in other age groups; clinicians from 26 to 45 years old have the lowest organizational commitment, and clinicians over 56 have the highest organizational commitment; in terms of organizational career management and career growth, clinicians under the age of 25 score significantly higher than those of other age groups.

4. There is a significant difference in the scores of organizational career management and career growth among clinical staff with different marital statuses (organizational career management, $H=9.15$, $P<0.01$; career growth, $H=3.36$, $P<0.05$). In terms of organizational career management and career growth, unmarried clinicians score higher than married ones.

5. There is a significant difference in the scores of organizational career management and career growth among clinical staff with different amounts of children (organizational career management, $H=4.46$, $P<0.01$; career growth, $H=3.46$, $P<0.05$). The clinicians who have no child score higher score than those who have.

6. There is a significant difference in the score of turnover intention among clinical staff with different educational backgrounds (turnover intention, $H=4.98$, $P<0.01$). In terms of turnover intention, clinicians with a doctoral degree have significantly lower scores in turnover intention compared with others, and there is no statistical difference in scores among clinicians of other academic qualifications.

7. There is a significant difference in the scores of organizational career management, career growth, organizational commitment, and turnover intention among clinical staff with different working years (organizational career management, $H=7.48$, $P<0.001$; career growth, $H=5.79$, $P<0.001$; organizational commitment, $H=4.25$, $P<0.01$; turnover intention, $H=2.81$, $P<0.05$). In terms of organizational career management, clinicians who work for less than one year have the highest score, and clinicians who work for one to three years have the second highest score, and both types of clinicians score higher than those with other working years; in terms of career growth, clinicians who work for less than one year score significantly higher than other clinicians; in terms of organizational commitment, clinicians who have

worked for more than 20 years score higher than other clinicians; in terms of turnover intention, clinicians who have worked for over 20 years score lower than other clinicians.

8. There is a significant difference in the score of turnover intention among clinicians with different family monthly income per capita (turnover intention, $H=3.04$, $P<0.05$). In terms of turnover intention, clinicians with a family monthly income per capita of 5,001 to 10,000 yuan score lower than those with an income of more than 1,0001 yuan.

9. There is a significant difference in the score of organizational commitment among clinicians with different employment forms (organizational commitment, $F=2.07$, $P<0.05$). The clinical staff on the government payroll score higher in organizational commitment than those contracted employees.

10. There is a significant difference in the scores of organizational career management and organizational commitment among clinical staff with different professional titles (organizational career management, $F=3.17$, $P<0.05$; organizational commitment, $F=3.66$, $P<0.05$). In terms of organizational career management, associate chief physicians score lower than resident physicians; in terms of organizational commitment, resident physicians score significantly lower than chief physicians.

11. There is a significant difference in the scores of organizational career management, career growth, organizational commitment, and turnover intention among clinical staff with different lengths of service in the current hospital (organizational career management, $F=6.68$, $P<0.001$; career growth, $F=4.56$, $P<0.01$; organizational commitment, $F=3.28$, $P<0.05$; turnover intention, $F=4.31$, $P<0.01$). In terms of organizational career management, clinicians who have been working for less than five years score higher than others; in terms of career growth, clinicians who have been working for less than five years score higher than others; in terms of organizational commitment, those who have been working in the current hospital for more than 21 years score higher than others; in terms of turnover intention, clinicians who have been working in the current hospital from 11 to 15 years score higher than others and those who have been working for less than five years and more than 21 years have low turnover intention.

4.5 Correlation analysis

Correlation between the basic characteristics and organizational career management, career growth, organizational commitment, and turnover intention of the clinicians is analyzed, and

the following results are achieved (see Table 4-7).

1. The hospital level is negatively correlated with turnover intention in the score (the hospitals are numbers, with 1 and 2 representing level 2A hospitals and 3 representing level 3A hospital) and is positively correlated with organizational career management and career growth in the score, and the correlation is statistically significant.

2.In terms of gender, age, marital status, amount of children and educational background, gender has no significant correlation with the four variables; age is negatively correlated with turnover intention, and positively correlated with organizational commitment; marital status is negatively correlated with turnover intention and positively correlated with organizational career management and career growth; amount of children is positively correlated with organizational career management and career growth; educational background is positively correlated with career growth.

3. In terms of working years, family monthly income per capita, employment form, professional title and length of service in the current hospital, the working years are negatively correlated with organizational career management and career growth; family monthly income per capita is negatively correlated with turnover intention; employment form has no significant correlation with all the four variables; professional title is positively correlated with organizational commitment; length of service in the current hospital is negatively correlated with organizational career management and career growth and positively correlated with organizational commitment.

4. In terms of important measurement variables, turnover intention is negatively correlated with organizational commitment, organizational career management and career growth. Organizational commitment, organizational career management and career growth are positively correlated with each other, and the correlation is statistically significant.

Table 4-7 Correlation between the basic characteristics and organizational career management, career growth, organizational commitment, and turnover intention of the clinicians

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Hospital	1														
Gender	.140** .000	1													
Age	-.033 .184	-.201** .000	1												
Marital Status	.007 .764	.123** .000	-.506** .000	1											
Amount of Children	.058* .019	.105** .000	-.604** .000	.686** .000	1										
Educational Background	.332** .000	-.242** .000	.140** .000	-.163** .000	-.098** .000	1									
Working Years	-.062* .013	-.091** .000	.830** 0.000	-.553** .000	-.659** .000	.073** .003	1								
Family Monthly Income Per Capita	.146** .000	-.064* .011	.426** .000	-.301** .000	-.330** .000	.255** .000	.426** .000	1							
Employment Form	-.110** .000	.076** .002	-.584** .000	.372** .000	.478** .000	-.214** .000	-.600** .000	-.381** .000	1						

Professional Title	.111**	.490**	-.068**	.021	-.033	-.400**	.106**	-.031	-.033	1					
	.000	.000	.007	.404	.194	.000	.000	.213	.189						
Length of Service in the Current Hospital	-.062*	-.066**	.803**	-.437**	-.565**	-.032	.835**	.368**	-.603**	.136**	1				
	.012	.008	0.000	.000	.000	.192	0.000	.000	.000	.000					
OGM	.205**	0.05	-0.07	.129**	.137**	0.05	-.186**	0.02	0.07	-0.08	-.136**	1			
	0.00	0.2	0.08	0.00	0.00	0.19	0.00	0.70	0.09	0.06	0.00				
CRG	.200**	0.03	-0.04	.084*	.116**	.090*	-.130**	0.06	0.02	-0.05	-.078*	.703**	1		
	0.00	0.46	0.34	0.03	0.00	0.02	0.00	0.15	0.63	0.25	0.04	0.00			
OGC	0.07	-0.02	.134**	-0.01	-0.03	0.03	0.07	0.07	-0.07	.111**	.089*	.551**	.522**	1	
	0.06	0.57	0.00	0.81	0.50	0.47	0.08	0.06	0.06	0.00	0.02	0.00	0.00		
TIP	-.159**	-0.07	-.077*	-.085*	-0.02	-0.05	0.00	-.097*	0.06	-0.02	-0.04	-.350**	-.352**	-.245**	1
	0.00	0.06	0.05	0.03	0.66	0.17	0.94	0.01	0.12	0.69	0.31	0.00	0.00	0.00	

Notes: 1. Hospital: 1 represents Third Affiliated Hospital of Guangzhou Medical University, 2 represents Liwan District People's Hospital of Guangzhou, and 3 represents Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University.

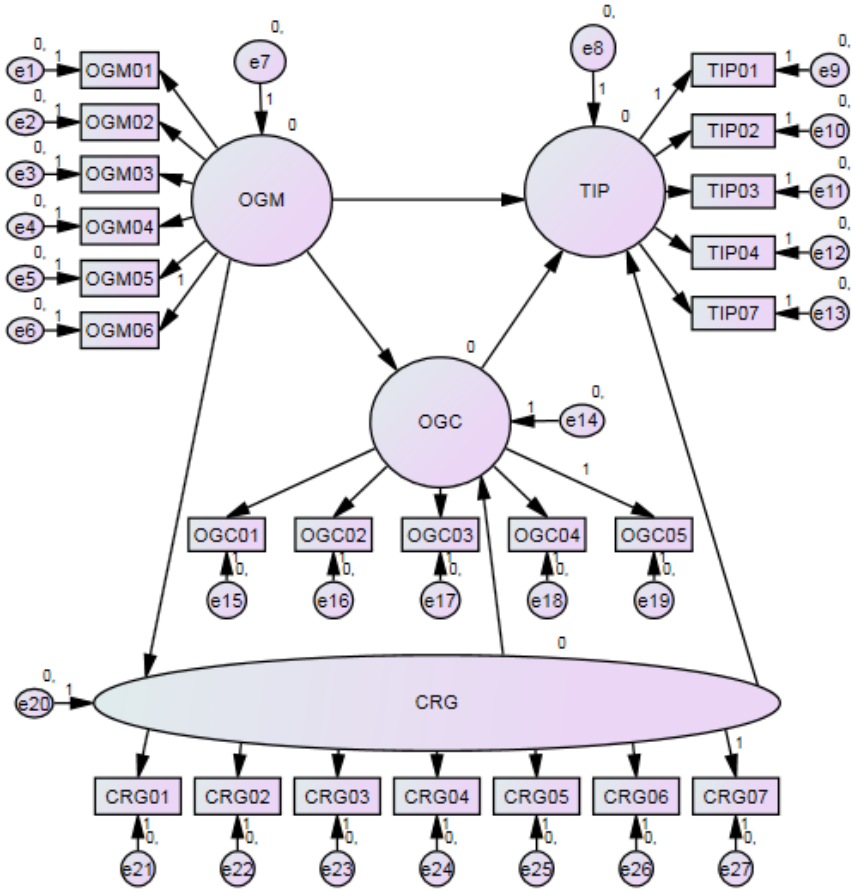
2. The Pearson correlation coefficient and the corresponding P value are reported in the table; **. The correlation is significant at the 0.01 level (two-tailed), *. The correlation is significant at the 0.05 level (two-tailed); The meaning of the abbreviations is: OGM-organizational career management, CRG-career growth, OGC-organizational commitment, TIP-turnover intention.

4.6 Structural equation model research

4.6.1 Structural equation model of organizational career management, career growth, organizational commitment, and turnover intention

According to the basic theoretical supposition in Figure 2-1, and based on the aforementioned correlation analysis, the structural equation model of organizational career management, career growth, organizational commitment, and turnover intention is built as per Figure 4-1.

Figure 4-1 Structural equation model of organizational career management, career growth, organizational commitment, and turnover intention (Model 1)



Parameter estimation is conducted on Model 1, and the path is shown as per Figure 4-2, the goodness of fit index is shown as per Table 4-8, and the parameter estimates are shown as per Table 4-9.

Figure 4-2 Model 1 path diagram estimates (unstandardized)

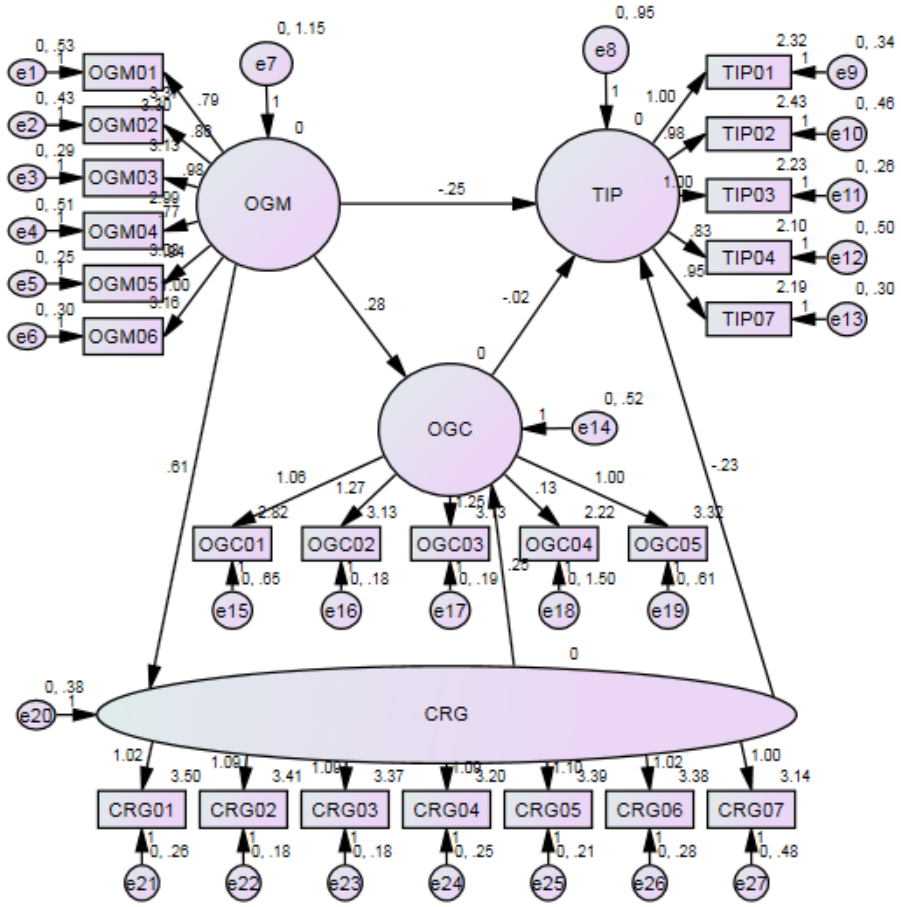


Table 4-8 Model 1 goodness of fit test

Index	Value	Reference Standard	Pass or Fail
CMIN/DF	4.401	<3.0～5.0	Pass
RMSEA	0.076	<0.05 (good fit) <0.08 (reasonable fit)	Pass
NFI	0.951	>0.9	Pass
RFI	0.934	>0.9	Pass
IFI	0.956	>0.9	Pass
TLI	0.940	>0.9	Pass
CFI	0.956	>0.9	Pass
PNFI	0.707	>0.5	Pass

Source: Wu (2009)

It can be seen from Table 4-8 that the values of both the absolute fit indices MIN/DF and RMSEA are within the reference standard, and the values of the incremental fit indices NFI, RFI, IFI, TLI, and CFI are all greater than 0.9. The PNFI index is greater than 0.50. This indicates that the covariance matrix of Model 1 fits the observed data and the model setting is acceptable.

Table 4-9 Model 1 parameter estimates

			Estimate	S.E.	C.R.	P
CRG	<——	OGM	0.613	0.032	19.013	***
OGC	<——	OGM	0.280	0.044	6.329	***
OGC	<——	CRG	0.246	0.052	4.738	***
TIP	<——	OGM	-0.226	0.07	-3.222	0.001
TIP	<——	CRG	-0.246	0.061	-4.054	***
TIP	<——	OGC	-0.017	0.004	-3.932	***

Notes: *** means <0.001

As can be seen from Table 4-9, the path coefficient of organizational career management to organizational commitment is 0.498, the path coefficient of organizational commitment to turnover intention is -0.076, and the path coefficient of organizational career management to turnover intention is -0.329. The above three path coefficients are all significant in the 95% confidence interval. Since the coefficients of the three paths are significant, it can be considered that the path construction of Model 1 is feasible, and there is no need to modify the construction of the model. According to the empirical results of Model 1, organizational career management, career growth and organizational commitment are negatively correlated with turnover intention, organizational career management is positively correlated with career growth and organizational commitment, and career growth is positively correlated with organizational commitment. When comparing the positive and negative natures of the path coefficient with the existing research, it is found that the results of this research are similar to those of previous studies, so the following conclusions can be drawn:

H1: organizational career management has a significant negative correlation with turnover intention of clinicians, not rejected.

H2: organizational career management has a significant positive correlation with organizational commitment of clinicians, not rejected.

H3: organizational career management has a significant positive correlation with career growth, not rejected.

H4**:** organizational commitment has a significant negative correlation with turnover intention of clinicians, not rejected.

H5**:** career growth has a significant negative correlation with turnover intention of

clinicians, not rejected.

H6**:** career growth has a significant positive correlation with organizational commitment of clinicians, true.

Table 4-10 Model 1 path effect (standardized effect value)

SEM path			Direct Effect	Indirect Effect	Overall Effect
OGM	——>	CRG	0.731***		
	——>	OGC	0.347***	0.187***	0.534***
	——>	TIP	-0.248**	-0.144***	-0.392**
CRG	——>	OGC	0.256***		
	——>	TIP	-0.191***	-0.004***	-0.195***
OGC	——>	TIP	-0.014***		

The total, direct, and indirect effects among organizational career management, career growth, organizational commitment, and turnover intention in Model 1 are shown as per Table 4-10. It can be seen that career growth and organizational commitment is the mediating variable in the impact of organizational career management on turnover intention, and the influence path is organizational career management→career growth→turnover intention. In addition, career growth is the mediating variable in the impact of organizational career management on organizational commitment, and the influence path is organizational career management→career growth→organizational commitment. The total effect of organizational career management on turnover intention is -0.392, the effect of direct impact is -0.248, and the effect of indirect impact is -0.144. Based on the above analysis, the following conclusion can be drawn:

H7: career growth is a mediating variable in the impact of organizational career management on turnover intention of clinicians, not rejected

H8**:** organizational commitment is a mediating variable in the impact of organizational career management on turnover intention of clinicians, not rejected.

H9**:** career growth is a mediating variable in the impact of organizational career management on organizational commitment of clinicians, not rejected.

4.6.2 Structural Equation Model According to Classification of Hospitals

In order to compare the similarities and differences of the four variables in different hospitals, this study adopts Model1 to regress the data of the three hospitals separately, and the detailed fit indexes are shown from Table 4-11 to Table 4-14.

Table 4-11 Model 1 goodness of fit test of three hospitals

Index	Value	Reference Standard	Pass or Fail
Third Affiliated Hospital of Guangzhou Medical University			
CMIN/DF	3.991	<3.0～5.0	Pass
RMSEA	0.078	<0.05 (good fit) <0.08 (reasonable fit)	Pass
NFI	0.917	>0.9	Pass
RFI	0.929	>0.9	Pass
IFI	0.915	>0.9	Pass
TLI	0.914	>0.9	Pass
CFI	0.916	>0.9	Pass
PNFI	0.712	>0.5	Pass
Liwan District People's Hospital of Guangzhou			
CMIN/DF	4.443	<3.0～5.0	Pass
RMSEA	0.072	<0.05 (good fit) <0.08 (reasonable fit)	Pass
NFI	0.942	>0.9	Pass
RFI	0.920	>0.9	Pass
IFI	0.913	>0.9	Pass
TLI	0.902	>0.9	Pass
CFI	0.912	>0.9	Pass
PNFI	0.704	>0.5	Pass
Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University			
CMIN/DF	4.792	<3.0～5.0	Pass
RMSEA	0.075	<0.05 (good fit) <0.08 (reasonable fit)	Pass
NFI	0.921	>0.9	Pass
RFI	0.936	>0.9	Pass
IFI	0.927	>0.9	Pass
TLI	0.909	>0.9	Pass
CFI	0.926	>0.9	Pass
PNFI	0.723	>0.5	Pass

Source: Wu (2009)

Tables 4-12 shows that the fit index of the three sub-sample regressions are within the reference index range, indicating that Model1 is also applicable to the sub-samples, and no

adjustment is needed. The regression data are shown in Table 4-12 to Table 4-14 (see Appendix II for detailed data).

Table 4-12 Model 1 path effect of Third Affiliated Hospital of Guangzhou Medical University (standardized effect value)

SEM path			Direct Effect	Indirect Effect	Overall Effect
OGM	——>	CRG	0.694***		
	——>	OGC	0.364***	0.149**	0.513**
	——>	TIP	-0.062**	-0.180**	-0.242**
CRG	——>	OGC	0.214**		
	——>	TIP	-0.254**	-0.002**	-0.256**
OGC	——>	TIP	-0.009***		

Table 4-13 Model 1 path effect of Liwan District People's Hospital of Guangzhou (standardized effect value)

SEM path			Direct Effect	Indirect Effect	Overall Effect
OGM	——>	CRG	0.771***		
	——>	OGC	0.300**	0.283**	0.583**
	——>	TIP	-0.181**	-0.172**	-0.353**
CRG	——>	OGC	0.367**		
	——>	TIP	-0.189**	0.033**	-0.222**
OGC	——>	TIP	-0.089***		

Table 4-14 Model 1 path effect of Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University (standardized effect value)

SEM path			Direct Effect	Indirect Effect	Overall Effect
OGM	——>	CRG	0.705***		
	——>	OGC	0.41***	0.123**	0.533**
	——>	TIP	-0.34***	-0.143**	-0.483**
CRG	——>	OGC	0.174**		
	——>	TIP	-0.157**	-0.014**	-0.171**
OGC	——>	TIP	-0.079***		

According to Table 4-12 to Table 4-14, the fitting results of models of the three hospitals are basically consistent with the fitting results of the total sample. Organizational career management, career growth and organizational commitment are positively correlated with each other, and all three are negatively correlated with turnover intention. Similarly, career growth and organizational commitment are the mediating variables in the impact of organizational career management on turnover intention, and the influence path includes organizational career management→ career growth→ turnover intention, and organizational career management → organizational commitment → turnover intention. In addition, career growth is the mediating variable in the impact of organizational career management on organizational commitment, and the influence path is organizational career management→ career growth→ organizational commitment. The total effect values of the impact of organizational career management on turnover intention are -0.242, -0.353 and -0.483 respectively, the direct effect values are-0.062, -0.181 and -0.340 respectively, and the indirect effect values are-0.180, -0.172 and -0.143.

Chapter 5: Discussion and Conclusion

5.1 Status quo of organizational career management, career growth, organizational commitment and turnover intention of clinicians

The survey results show that clinicians score 3.19 points, 3.33 points, 3.00 points and 2.26 points in organizational career management, career growth, organizational commitment and turnover intention respectively, and the score range is from one to five points. If converted to a centesimal system, the four scores are 54.75 points, 58.25 points, 50 points, and 31.5 points (31.5 points = [(2.26-1)/(5-1)]*100) respectively. This indicates that clinicians surveyed have a relatively high turnover intention and their psychological contract with the organization is relatively loose. To be specific, the organizational career management, career growth, organizational commitment and turnover intention scores of the Third Affiliated Hospital of Guangzhou Medical University (3A) are 3.47 points, 3.63 points, 3.14 points and 2.05 points respectively; the scores of Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University (2A) are 2.99 points, 3.19 points, 2.97 points and 2.43 points respectively; the scores of Liwan District People's Hospital of Guangzhou (2A) are 3.06 points, 3.09 points, 2.84 points, and 2.31 points respectively. Comparing the scores of each hospital and the overall score of the samples, it can be found that on the one hand, the level 3A hospital has lower turnover intention scores, indicating that clinicians working there are relatively less willing to leave the hospital; on the other hand, the level 3A hospital has higher scores in organizational commitment, organizational career management and career growth than the overall sample, indicating that level 3A hospitals organize more career management activities for clinicians, so they have stronger psychological dependence and perceived career growth.

5.2 Influence of basic characteristics on organizational career management, career growth, organizational commitment and turnover intention

The survey results show that the scores of clinicians with different basic characteristics are significantly different.

Table 5-1 Differences of organizational career management, career growth, organizational commitment, and turnover intention of clinicians with different basic characteristics

Category	Classification	N	Organizational Career Management			Career Growth			Organizational Commitment			Turnover Intention		
			M	SD	Statistics	M	SD	Statistics	M	SD	Statistics	M	SD	Statistics
Hospital	Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University	249	2.98	1.14	16.59***	3.19	1.02	27.79***	2.97	1.06	4.42*	2.44	1.06	8.90***
	Liwan District People's Hospital of Guangzhou	172	3.06	1.01		3.09	0.98		2.85	1.1		2.31	1.07	
	Third Affiliated Hospital of Guangzhou Medical University	259	3.47	0.89		3.64	0.84		3.14	0.92		2.05	1.01	
Gender	Male	340	3.14	1.1	-1.28	3.3	1	-0.75	3.02	1.04	0.57	2.33	1.08	1.9
	Female	324	3.24	0.97		3.35	0.96		2.98	1		2.17	1	
Age	Below 25	55	3.63	1.01	3.72**	3.8	0.83	5.10***	3.09	1.06	5.47***	2.29	1.15	3.48**
	26-35	268	3.2	0.99		3.3	0.93		2.84	0.91		2.27	0.98	
	36-45	191	3.05	1.06		3.21	0.99		2.98	1.06		2.42	1.09	
	46-55	143	3.15	1.04		3.33	1.01		3.23	1.09		2.06	1.05	
	Over 56	20	3.43	1.34		3.79	1.15		3.63	1.21		1.78	1.14	
Marital	Married	492	3.1	1.07	9.15**	3.28	0.99	3.36*	3.02	1.05	1.07	2.31	1.07	2.36

Status	Unmarried	157	3.5	0.93		3.51	0.92		2.92	0.92		2.13	0.96	
	Others	17	3.1	0.98		3.33	0.96		3.28	1.07		1.95	1.29	
Amount of Children	1	347	3.09	1.02	4.46**	3.25	1.01	3.46**	3.03	1.06	0.61	2.23	1.08	1.11
	2	108	3.11	1.18		3.3	1.02		2.98	1.07		2.41	1.06	
	More than 2	8	3.17	1.41		3.04	1.12		2.58	0.77		2.43	1.1	
Educational Background	None	206	3.41	0.97	1	3.51	0.88	1.93	2.97	0.95	1.66	2.19	0.99	4.98**
	Below college degree	12	3.18	1.45		3.2	1.36		2.71	1.33		1.88	1.12	
	College degree	55	3.24	1.17		3.31	1.1		3.18	1.08		2.03	0.98	
	Bachelor’s degree	361	3.13	1		3.26	0.95		2.98	1.04		2.38	1.07	
	Master’s degree	198	3.22	1.04		3.4	0.92		2.96	0.98		2.25	1.05	
	Doctoral degree	53	3.42	1.02		3.62	1.09		3.27	1		1.78	0.83	
Working Years	Less than 1 year	52	3.71	1.06	7.48***	3.95	0.83	5.79***	3.15	1.02	4.25**	2.05	1.09	2.81*
	1-3 years	97	3.53	0.83		3.47	0.76		2.97	0.86		2.24	1.02	
	4-5 years	65	3.31	0.82		3.23	0.93		2.83	0.81		2.36	0.95	
	5-10 years	141	3.01	1		3.19	0.95		2.84	0.97		2.32	0.98	
	11-20 years	149	2.97	1.15		3.22	1		2.89	1.11		2.46	1.11	
	More than 20 years	174	3.13	1.05		3.32	1.07		3.28	1.12		2.07	1.08	
Family Monthly Income Per Capita	Less than 5000 yuan	102	3.21	1.07	1.27	3.35	0.99	1.83	2.97	0.94	1.19	2.3	1.05	3.04*
	5001~10000 yuan	272	3.14	1.05		3.25	0.96		2.92	0.99		2.42	1.03	
	10001~15000 yuan	146	3.2	0.91		3.31	0.91		3.05	0.93		2.1	1.01	
	More than 15000 yuan	152	3.25	1.1		3.48	1.04		3.13	1.21		2.12	1.12	

Employment Form	Staffing of government affiliated institutions	409	3.13	1.06	-1.79	3.31	1.02	-0.8	3.06	1.08	2.07*	2.2	1.08	-1.66
	Contracted employees	262	3.28	1.01		3.37	0.91		2.9	0.94		2.34	1	
Professional Title	Resident physician	276	3.28	1.01	3.17*	3.39	0.92	2.1	2.9	1	3.66*	2.27	1.02	0.44
	Attending physician	212	3.15	1.06		3.31	1.01		3	1.01		2.29	1.02	
	Associate chief physician	138	2.97	1.04		3.17	0.99		3.06	1.1		2.29	1.17	
	Chief physician	30	3.37	1.04		3.55	1.13		3.53	1		2.06	1.15	
Length of Service in the Current Hospital	Less than 5 years	241	3.45	0.94	6.68***	3.52	0.87	4.56**	2.99	0.92	3.28*	2.18	1	4.31**
	6-10 years	144	3.07	1		3.2	0.99		2.88	1.03		2.42	1.05	
	11-15 years	85	2.98	1.06		3.12	0.93		2.85	1.03		2.55	1	
	15-20 years	70	2.94	1.21		3.17	1.07		2.99	1.16		2.25	1.22	
	More than 21 years	137	3.11	1.06		3.34	1.06		3.27	1.11		2.04	1.06	

Notes: 1. For the basic characteristics with only two categories of classification (including gender and employment form), the levene test method is used to test homogeneity of variance of the samples. If the variance is homogeneous, the t statistic and P value under the assumed homogeneity of variance is used. If the variance is not homogeneous, the t statistic and P value under then on-assumed homogeneity of variance is used;

2. For the basic characteristics with more than two categories of classification (including hospital, age, marital status, number of children, educational background, working years, family monthly income per capita, professional title and length of service in the current hospital), Kruskal-Wallis test is used to identify whether the samples are identically distributed, if they are not identically distributed, Dunnett T3 will be used to test the differences between the groups; if they are identically distributed, the Duncan method will be used to test the differences between the groups, the significance level is 95%; ***. P< 0.001; **. P < 0.01; *. P < 0.05.

Hospital level is one of the basic characteristics of this research, and the scores of the four important variables are significantly different among the three hospitals. Clinicians of the Third Affiliated Hospital of Guangzhou Medical University, a level 3A hospital, has significantly lower turnover intention than clinicians of the two level 2A hospitals ($P<0.001$). There are two reasons for this. First, from the institutional level, level 3A hospitals are the highest-level hospital in China's hierarchical medical service system. Medical staff working in tertiary hospitals cannot enter a higher-level hospital after leaving the current hospital. In contrast, the medical staff of secondary hospitals have the motivation to leave their current hospital to a tertiary one. Second, from the perspective of compensation, the total salary of clinicians in level 3A hospitals is higher than that of the medical staff in level 2A hospitals. Since the level 3A hospitals have high-quality medical resources, most of the medical services are naturally concentrated in these hospitals, which leads to higher workload of level 3A hospitals, thus forming a gap in the total salary. The survey of Jiang, Zhou, Wei, Tang, Bai, and Zhang (2017) also indicates that disagreement rate of medical staff in tertiary hospitals toward the hospital salary system is significantly lower than medical staff in secondary hospitals. Considering the high cost of living in Guangzhou (especially housing prices), the turnover intention of clinicians in level 3A hospitals is generally lower than that of clinicians in the level 2A hospitals.

In terms of organizational career management, clinicians of the Third Affiliated Hospital of Guangzhou Medical University, a level 3A hospital, score significantly higher than those of the two level 2A hospitals ($P<0.001$). It indicates that clinicians of level 3A hospitals perceive more organizational career management activities which are helpful to them. In fact, the personnel management system of tertiary hospitals is more transparent and fairer than that of secondary hospitals, so it is more helpful for clinicians to make a plan of their future career.

In terms of career growth, clinicians of the Third Affiliated Hospital of Guangzhou Medical University, a level 3A hospital, score significantly higher than those of the two level 2A hospitals ($P<0.001$). There are two reasons for this. On the one hand, tertiary hospitals have more medical resources than secondary hospitals, such as new types of medical equipment (Wang, Cheng, Wang, & Che, 2017), and clinicians working in tertiary hospitals can get access to more up-to-date medical information, which is beneficial to the learning and updating of professional knowledge. On the other hand, the society has higher expectations for the medical level of tertiary hospitals. Patients with incurable diseases prefer tertiary hospitals (Liu, 2004). As a result, clinicians in tertiary hospitals have more opportunities to

deal with different cases and have a better chance of accumulating experience than clinicians in secondary hospitals.

In terms of organizational commitment, clinicians of the Third Affiliated Hospital of Guangzhou Medical University, a level 3A hospital, score significantly higher than those of the two level 2A hospitals ($P<0.05$), indicating the emotional attachment of clinicians in tertiary hospitals is stronger than those in secondary hospitals, which is consistent with the lower turnover tendency of clinicians in the tertiary hospitals. However, statistically speaking, the score difference in organizational commitment between the tertiary hospitals and the secondary hospitals is smaller than that in the other three variables (see Table 5-1). This may be a result of more work stress of clinicians in tertiary hospitals than those in secondary hospitals. The work stress comes from intense competition among hospital staff, high expectations of patients, and long hours of work.

In terms of gender, male clinicians and female clinicians do not differ significantly in organizational career management, career growth, organizational commitment, and turnover intention. This is consistent with the research carried out by Shao, Zhang, Zhang and He (2004) and Gu, Huang, Chen, Wang, Chen, and Cui, et al. (2006). The reason is that in a profession based on knowledge and professional skills, the advantage of male in physical labor will not be manifested in the career development, so there is no significant difference in turnover intention between male and female clinicians.

In terms of age, clinicians of different ages have significant differences in the scores of organizational career management, career growth, organizational commitment, and turnover intention. As can be seen from Table 5-1, the scores of each important variable grouped by age are U-shaped or inverted U-shaped. Specifically, the highest rate of turnover intention occurs in clinicians from aged 36 to 45. The score of turnover intention reduces no matter the age increases or decreases. This is because clinicians in this age group are usually in the first-line positions, and as the backbone of the hospital, they have to undertake a lot of work. In addition, they also have to take responsibility of family life, so they are eager to improve their remuneration and get promotion through change of job. In contrast, younger clinicians hope to maintain their original job to increase their experience, and older clinicians generally have higher positions and pay, so their turnover intention is relatively lower (Zhang, 2011).In terms of organizational career management, career growth, and organizational commitment, clinicians aged from 36 to 45 have the lowest scores, which may be due to the fact that younger clinicians are at the initial stage of their careers, so they are more concerned about

affective commitment and career growth, while older clinicians are at the end of their careers, so they are gradually giving up the thought of changing jobs. Therefore, older clinicians have lower perception level of the various factors affecting turnover intention and tend to present satisfaction in the answering of questionnaire.

In terms of marital status and amount of children, married clinicians and those with no child score higher in organizational career management and career growth. The focus of daily life of clinicians who have not yet formed a family is work, so they are more aware of the organizational operations in career management and achievements in career growth. In contrast, clinicians who have established families are psychologically transferring a portion of the original weight of work to the family, and therefore have a relatively poor perception of organizational operations in career management and achievements in career growth (Nie, 2017).

In terms of educational background, clinicians with doctoral degrees have significantly lower score in turnover intention than those with other academic qualifications. According to this research, the reason is that clinicians with doctoral degrees are more likely to be put in an important position and therefore have better career development opportunities and working platform. In addition, clinicians with doctoral degrees have stronger occupational stickiness and better career development prospects. Compared with those with other academic qualifications, a doctor degree requires the candidates to have a profound knowledge base, and it also takes substantial time to obtain the degree. Therefore, they have generally identified their career goals and mastered the professional skills. Once they are committed to work in a hospital, their turnover intention is often relatively low.

In terms of working years, clinicians who have worked for more than 20 years have lower scores in turnover intention and higher scores in organizational commitment. In terms of organizational career management, clinicians who work for less than one year have the highest scores, and those who work for one to three years have the second highest score, and both of them score higher than other clinicians. This may be because long working years creates an emotional connection between the clinician and the hospital, thereby reducing their turnover intention.

In terms of family monthly income per capita, clinicians with the income of 5001~10000 yuan have the highest turnover intention, which is mainly due to the pressure of changing jobs brought by low income. Under the huge pressure of surging housing price in Guangzhou, remuneration has become an important factor. Due to the effect of the halo effect, the increase

in income will cover up dissatisfaction with other aspects to a certain extent, thereby reducing the turnover intention (Zhang, 2011). It is worth noting that clinicians with a monthly income of less than 5,000 yuan have lower turnover intention than clinicians with an income of 5001 to 10,000 yuan. This research believes that it is because clinicians earning less than 5,000 yuan hope to accumulate work experience in the organization despite the low income, so their turnover intention is not as strong as clinicians with an income of 5001~10000 yuan.

In terms of professional title, the chief physicians have a higher score in organizational commitment than the resident physicians, which may be because the conferring of professional titles is carried out within the organization and obtaining the professional title under the organization will increase the emotional connection between the physicians and the organization, thereby increasing their affective commitment.

5.3 Relationship between organizational career management, career growth, organizational commitment and turnover intention

The analysis results show that organizational career management, career growth and organizational commitment are positively correlated with each other, and the three are negatively correlated with turnover intention, which is consistent with results of previous studies. Ye (2017) conducted a survey of community medical staff and found that there is a significant negative correlation between different dimensions of organizational commitment and turnover intention. Zhang (2009) found that organizational support can well explain the relationship between organizational career management and employee turnover intention. Liu (2010) analyzed the relationship between organizational career management and organizational commitment with job satisfaction as a mediating variable. The results show that organizational career management can directly influence organizational commitment and can also influence organizational commitment through job satisfaction. Saport and Farjoun (2003) found that career growth has a significant impact on retaining employees and reducing turnover. Weng and Xi (2011) found that the four aspects of career growth are closely related to affective commitment. Weng and Bian (2015) found that organizational career management has a positive impact on the fitting of values between people and organizations and the person-job fit, and thus has a positive effect on the career growth of employees.

The structural equation model fitting results show that organizational commitment and career growth play a mediating role in the influence of organizational career management on

turnover intention, and career growth plays a mediating role in the influence of organizational career management on turnover intention. According to Figure 4-1, organizational career management directly affects the turnover intention and indirectly affects the turnover intention through organizational commitment and career growth. Organizational career management directly affects turnover intention of clinicians, which means that if the hospital carries out a series of career management activities to provide clinicians with a clearer career development prospect, the turnover intention of clinicians will directly be reduced. Organizational career management indirectly affects turnover intention through the mediating role of organizational commitment, which means that a series of career activities carried out by the hospital will enhance the psychological connection between clinicians and the hospital, thereby increasing the psychological dependence of clinicians on the hospital and reducing turnover intention. Organizational career management also indirectly affects turnover intention through the mediating role of career growth. This means that a series of career management activities carried out by the hospital will improve the speed of the clinician's career goal progress, career ability development and career opportunity development, thereby reducing the turnover intention. By comparing the two paths of influence of organizational career management on turnover intention, Table 4-10 shows that the coefficient of direct impact of career growth (-0.140) is greater than the direct impact of organizational commitment (-0.005), but both of them are smaller than the direct impact (-0.248). That is to say, the effect of turnover intention reduction is stronger when the hospital directly carries out a series of career management activities.

In summary, organizational commitment and career growth play a mediating role in the impact of organizational career management on turnover intention, and career growth plays a mediating role in the impact of organizational career management on organizational commitment.

5.4 Impact of hospital attribute on the relationship of the four variables

Analysis results show that the total impact of organizational career management on turnover intention in level 2A hospitals is higher than that in level 3A hospitals. According to Table 4-12 to Table 4-14, the total impact of organizational career management on turnover intention in Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University (level 2A hospital) and Liwan District People's Hospital of Guangzhou (level 2A hospital) (-0.444, -0.387) is higher than that in Third Affiliated Hospital of Guangzhou Medical

University (level 3A hospital) (-0.256). It indicates that when perceiving the same organizational career management activities, the clinicians in level 2A hospitals will have lower turnover intention than those in level 3A hospitals. This may be because level 3A hospitals are the highest-level medical institutions in China's medical system, and the clinicians have no chance to go to a higher-level medical institution, but clinicians working in level 2A hospitals have the motivation to be promoted to higher-level hospitals (Zhang, 2011). Therefore, for clinicians working in level 3A hospitals, organizational career activities are far less helpful to them than to clinicians in level 2A hospitals. In addition, clinicians in level 2A hospitals are mainly faced with common diseases and frequently-occurring diseases, so they gave lower sense of achievement than those in level 3A hospitals, and their job burnout is more serious (Zhu, 2006). The same organizational career activities can stimulate clinicians to have a great longing for a bright future career, which will improve their psychological state in the work process and reduce the turnover intention.

The structural equation model fitting results also show that the influence of organizational career management on turnover intention in level 3A hospitals is mainly through indirect effect (74.33%), while the influence of organizational career management on turnover intention in level 2A hospitals is mainly through direct effect (51.21% for Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University and 70.38% for Liwan District People's Hospital of Guangzhou). Data show that the indirect effects of organizational career management on turnover intention in the three hospitals are not much different, but the direct effects of organizational career management on turnover intention in the two level 2A hospitals are much larger than that in Third Affiliated Hospital of Guangzhou Medical University (level 3A hospital). It indicates that the organizational career management activities in level 2A hospitals can directly reduce turnover intention of the clinicians, and the organizational career management activities of level 3A hospitals affect turnover intention through career growth and organizational commitment. That is to say, the influence of organizational career management activities on turnover intention of clinicians in level 3A hospitals is more likely to be interfered by other factors, and the influence of organizational career management activities on turnover intention of clinicians in level 2A hospitals is more stable. Therefore, level 2A hospitals should improve their organizational career management activities as soon as possible, and this is a feasible way to reduce the turnover intention of clinicians.

In summary, the total impact of organizational career management on turnover intention

in level 2A hospitals is stronger than that in level 3A hospitals. The influence of organizational career management on turnover intention in level 3A hospitals is mainly through indirect effect, while the influence of organizational career management on turnover intention in level 2A hospitals is mainly through direct effect.

5.5 Conclusion

This thesis carries out an empirical study of the large-scale population of clinicians in public hospitals in China, systematically explores the relationship between career management, career growth, organizational commitment and turnover intention, and focuses on the mediating role of career growth and organizational commitment in the impact of career management on turnover intention, which, to some extent, makes up for the shortcomings of the existing literature on the relationship between the four variables of clinicians in public hospitals in China, and also provides feasible suggestions for public hospitals to retain talents and build a stable team of doctors.

As for objects of study, this thesis focuses on the level 2A hospitals in China's public hospital system and compares the differences between the four variables and their relationship between level 2A hospitals and level 3A hospitals. In terms of research methods, this study adopts the structural equation model to explore the relationship between the four variables, and the results show that career growth and organizational commitment play a mediating role in career management and turnover intention, and the results are stable. Based on the research hypotheses as well as the above empirical research and discussion, the study achieves the following conclusions.

5.5.1 A scale is designed to measure career management, career growth, organizational commitment and turnover intention

Before designing the questionnaire, the researchers have reviewed considerable previous literature, especially the Western classics on career management, career growth, organizational commitment, and turnover intention. Considering that this research is aimed at clinicians in public hospitals in China and has a strong Chinese characteristic, it focuses on the important research of many well-known scholars in China. In the process of designing the questionnaire, considering that involving all the dimensions of each variable will lead to too many questions in the questionnaire, so only the most important dimensions of each variable

are extracted. Among them, career management uses the "fair promotion" dimension for measurement, career growth uses the "vocational ability" and "career progress" dimensions for measurement, organizational commitment uses the "affective commitment" dimension for measurement, and turnover intention uses five of Mobley's (1977) seven questions.

The empirical results show that the four sets of sub-questionnaires can pass the test of validity and reliability, which means that the sub-questionnaires can accurately reflect the career management, career growth, organizational commitment and turnover intention of clinicians in the public hospitals interviewed. Therefore, this study provides a set of simple questionnaires covering the above four variables in the context of Chinese public hospitals. The questionnaires are valid and feasible.

5.5.2 Clinicians have relatively high turnover intention

Research results show that clinicians interviewed in public hospitals present a relatively high turnover intention. Table 4-3 shows that the average score of clinicians' turnover intention in all public hospitals surveyed is 2.26, namely, 31.5 in the centesimal system. That is to say, on the psychological level, about 30% of clinicians have a turnover intention.

In addition, by comparing the turnover intention scores of clinicians in the level 3A hospitals and the level 2A hospitals, it is found that clinicians in the level 2A hospitals have higher turnover intention. In view of the hierarchical medical management in China's medical and health service system, the distribution of medical resources is extremely uneven. The resources owned by level 2A hospitals are inferior to those owned by level 3A hospitals. Therefore, how to retain clinicians is an important problem faced by the level 2A hospitals.

5.5.3 The organizational career management, career growth, organizational commitment, and turnover intention of clinicians with different basic characteristics are significantly different.

This study examines the differences of clinicians with different basic characteristics in terms of organizational career management, career growth, organizational commitment, and turnover intention, and compares the differences between the level 2A hospitals and level 3A hospitals. Studies have shown that level 3A hospitals score higher in the three variables of organizational career management, career growth and organizational commitment than the level 2A hospitals and score lower in terms of turnover intention.

In terms of gender, male clinicians and female clinicians did not differ significantly in

organizational career management, career growth, organizational commitment, and turnover intention. In terms of age, the scores of each important variable grouped by age are U-shaped or inverted U-shaped, and the inflection point appears in the group of 36-45 years old. In terms of marital status and amount of child, unmarried and childless clinicians score higher in career management and career growth. In terms of academic qualifications, clinicians with doctoral degrees have significantly lower turnover intention scores than clinicians with other academic qualifications. In terms of working years, clinicians who have worked for more than 20 years have lower scores in turnover intention and higher scores in organizational commitment. In terms of family monthly income per capita, clinicians with the income of 5001~10000 yuan have the highest turnover intention, which is mainly due to the pressure of job change brought by low income. In terms of professional title, chief physicians score higher in organizational commitment than the resident physicians.

5.5.4 The organizational career management, career growth, organizational commitment and turnover intention of clinicians are significantly correlated with each other.

This study conducts a correlation analysis for the basic characteristics of clinicians in public hospitals and the four important variables. Studies have shown that there is no significant correlation between gender and the four main variables; age is negatively correlated with turnover intention and positively correlated with organizational commitment; marital status is negatively correlated with turnover intention and positively correlated with organizational career management and career growth; the amount of children is positively correlated with organizational career management and career growth; educational background is positively correlated with career growth. The working years is negatively correlated with organizational career management and career growth; the family monthly income is negatively correlated with turnover intention; the employment method has no correlation with the four important variables; professional title is positively correlated with organizational commitment; length of service in the current hospital is positively correlated with organizational commitment and negatively correlated with organizational career management and career growth. In terms of measurement of important variables, turnover intention is negatively correlated with organizational commitment, organizational career management and career growth. Organizational commitment, organizational career management and career growth are positively correlated with each other, and the correlation is statistically significant.

5.5.5 Organizational commitment and career growth play a mediating role in the impact of career management on turnover intention

For the relationship between the four important variables, this study adopts a structural equation model for regression analysis. Research shows that under the framework of organizational career management, career growth, organizational commitment and turnover intention, organizational career management positively affects career growth and organizational commitment, career growth positively affects organizational commitment, and organizational career management, organizational commitment and career growth all have a negative impact on turnover intention. The model regression results also show that organizational career management has both direct and indirect effects on turnover intention, and organizational commitment and career growth play a mediating role in the impact of career management on turnover intention. In addition, career growth plays a mediating role in the impact of career management on organizational commitment.

In addition, this study also conducts a structural equation model analysis to different hospitals. On the one hand, it investigates whether the empirical results of the total sample are stable, and on the other hand, it compares the differences of the four variables between level 2A hospitals and level 3A hospitals. Studies have shown that the conclusion on the relationship between the four important variables obtained from the total sample is still stable, and the total impact of career management on turnover intention in level 2A hospitals is higher than that in level 3A hospitals. The impact of organizational career management on turnover intention in level 3A hospitals are mainly indirect, and the impact of organizational career management on turnover intention in level 2A hospital is mainly direct.

Chapter 6: Suggestions and Outlook

It is found that organizational career management has both direct and indirect effects on turnover intention, and organizational commitment and career growth play a mediating role on the impact of organizational career management on turnover intention. In the existing research, Meng and Wang (2007), Yang (2012), Tian and Yang (2016), Feng, Zhan and Li (2017) have all proposed countermeasures to lower turnover intention of backbone doctors and nurses in hospitals, but they mainly focus on creating a healthy environment, building team relationships, and coming up with human resource management methods. This thesis combines the causes and influencing factors of clinician turnover intention, comprehensively considers the relationship between hospital career management, career growth, organizational commitment and turnover intention, and then proposes policy suggestions at the macro level of the government, meso level of the industry, micro level of the hospital, and individual level of the clinicians.

6.1 Macro level of the government

6.1.1 Establish a scientific and fair salary distribution mechanism

Establishing a scientific and fair internal salary distribution mechanism is subject to government regulation. Due to the high sensitivity and widespread attention of the hospital salary system reform which involves the vital interests of each employee, affects the harmony and stability of the hospital, and concerns setting of the total hospital salary by the comprehensive performance appraisal, the reform of compensation system of medical institutions is extremely important. Therefore, different local governments should implement the fiscal security policy and formulate medical staff compensation reform policies. For example, hospitals should be allowed to break through the current wage regulation and control level of public institutions, and medical service income can be used for personnel rewards after deducting the cost and necessary expenses. In addition, public health institutions at all levels should receive comprehensive performance assessment, the performance assessment should be linked to medical and health subsidies, overall compensation level,

promotion of leaders and rewards and punishments, and the assessment should be open to the public in an appropriate manner.

6.1.2 Build a caring mechanism for clinicians

The government plays a guiding role in the development of medical and health institutions. The career of clinicians, as the soul of medical institutions, deserve special attention. At present, clinicians are under great pressure and it is extremely important to build a caring mechanism for them. The local government should actively improve the workplace of the clinicians and offer a comfortable working environment, such as a comfortable office environment, green plants in the office, leisure areas and fitness areas, and agreeing dining environment in the cafeteria. In addition, the government should pay special attention to Doctors' Day and Nurses' Day by organizing different types of themed activities, creating a good social atmosphere that respects doctors and other medical staff, and launching activities of sending flowers, warmth and care. In addition, the government should also pay visits to retired medical staff.

6.2 Meso level of the industry

6.2.1 Promote evaluation mechanism reform for talents of different categories

The evaluation of medical staff should not be carried out in a "one-size-fits-all" manner. Instead, a comprehensive evaluation index system based on medical ethics, medical knowledge, clinical practice, scientific research, medical performance, medical contribution and public health service should be established for medical staff in different professional positions in different medical institutions. It is necessary to implement differentiated evaluation for different medical personnel and promote the evaluation mechanism for talents. For example, for clinical medical personnel, the evaluation focus should be on clinical medical skills, medical practice ability and job performance, and clinical medical records and therapeutic schedules should be introduced as the basis for evaluation; for medical research personnel, the evaluation focus should be on assessing their innovation ability, and the ability to transform and apply innovative results should be highlighted; for medical staff related to disease prevention and control, the evaluation focus should be on assessing epidemiological investigation, epidemic situation of infectious diseases and handling of public health emergencies, as well as the ability to monitor and evaluate diseases and hazardous factors; for

general practitioners, the evaluation focus should be on assessing mastery of the basic theoretical knowledge of general medicine, diagnosis and treatment of common diseases, preventive health care and the ability to provide basic public health services, and the number of contracted residents, clinical reception volume, service quality, satisfaction of the general public are also considered as important evaluation factors.

6.2.2 Strengthen industry self-regulation, avoid irrational competition between medical institutions caused by fighting for medical talents

At present, China's medical and health industry structure features multiple investment structures such as public, private, and foreign-funded medical institutions. This diversified industry structure determines that there is an inevitably fight for medical talents among different hospitals. Some hospitals are willing to recruit top doctors from the world at any cost or poach top-level doctors from other hospitals with generous pay, which can be seen as an irrational competition among the hospitals in the fight for medical staff. The Chinese Medical Industry Association, as the entrusted institution of the competent department of the medical and health industry, undertakes the tasks of formulating regulations and standards, holding policy discussions, conducting academic exchanges, disseminating advanced technology and scientific management experience, establishing friendly connections with relevant organizations at home and abroad, and promoting the exchanges and cooperation in the medical and health industry. It is necessary to advocate industry self-discipline within the medical institutions, and promote scientific and rational hospital competition, including competition in the absorption and cultivation of medical personnel, so as to restore the orderly and regulated climate in the development of the medical and health industry.

6.3 Micro level of the hospital

6.3.1 Formulate career management and planning for clinicians

Vigorously strengthening the training of hospital medical personnel and continuously developing the medical talent resources is a very important task for the hospital to gain a competitive edge. For the different types of clinicians, the hospital should formulate targeted career management and planning for them, including high-level talents, specialist (special disease) talents, resident doctors, medical technology department personnel, nursing staff and introduced talents. As for career management and planning of high-level talents, it is

necessary to implement a high-level talent training plan and attach importance to the cultivation of high-level talents in theoretical learning and clinical practice.

The hospital should support cross-regional academic exchanges and basic or clinical research, as well as create conditions, build communication platforms, and hold academic seminars to facilitate relevant academic exchanges; as for the career management and planning of specialist (special disease) talents, it is necessary to implement the traditional Chinese medicine specialist (special disease) personnel training plan. For those with intermediate or senior professional titles, the hospital should determine the direction of their business proficiency, increase the training of relevant theories and clinical practice, and gradually shift the focus of the specialists of traditional Chinese medicine (special disease) to specialist (special disease) research; as for career management and planning of resident doctors, the hospital should strengthen the theoretical training, basic skills training (including out-of-hospital training and in-hospital training) and basic knowledge training for them; as for career management and training of medical technology department talents, the hospital should focus on strengthening their theoretical study and mastery of professional skills, and encourage them to develop new technologies so as to provide a reliable basis for clinical diagnosis; as for career management and planning of nursing talents, the hospital should focus on the training of "three basics", strengthen awareness of aseptic operations.

The nursing staff should master new methods of nursing work, improve basic, clinical and life care to new levels and create good treatment and living conditions for patients. In terms of the introduction of talents, the hospital should introduce high-professional-title talents with professional expertise who are urgently needed by the hospital and difficult to train in the short-term according to its actual situation. In addition, the hospital should also introduce talents with doctoral and master's degree to further strengthen the key departments such as internal medicine, surgery, gynecology, and pediatrics.

6.3.2 Establish scientific and fair evaluation criteria and promotion mechanism

According to different types of medical personnel, the Hospital Talent Training Evaluation Criteria is formulated. According to the medical personnel categories and their actual situation, the hospital establishes scientific and reasonable talent evaluation criteria from the perspectives of medical ethics, medical knowledge, clinical practice, scientific research, medical performance and medical contribution. The evaluation combines tests and review, and the appraisal combines oral defense and review, so as to establish a

comprehensive talent evaluation and appraisal mechanism oriented by capability and performance. In addition, in the promotion mechanism of medical personnel, the academic papers, works, assessment results, training and further learning appraisal, medical performance and contribution, and medical ethics are all put into the archives as an important basis for career promotion.

6.3.3 Strengthen humanistic care and psychological counseling for medical staff

The pressure on the medical staff is relatively high, so it is particularly important to strengthen the humanistic care and psychological counseling for them. First, the hospital should pay attention to the ideological guidance of medical staff and guide them to look at problems in hospitals and society with a rational and objective attitude. Meanwhile, it is necessary to regularly hold related activities such as psychological counseling and mental health lectures for the medical staff, guide them to make changes in cognition and emotion, and help them solve psychological obstacles, carry out self-regulation and maintain physical and mental health. Second, the hospital should establish a sound communication mechanism with medical personnel with people as the center.

Channels such as president e-mail, the president's reception day and the staff symposium can be adopted so that the medical staff can reflect their psychological demands in a timely and direct manner. Great importance should be attached to the medical staff's right to know, participate and recommend. As for matters such as medical staff performance reform, job support and promotion, welfare and treatment that are of great concern to the medical staff, the hospital should publicize the information in a timely and open manner. Third, the hospital should improve the diversified culture on a people-oriented basis. Based on the diversified spiritual and cultural needs of the medical staff, the hospital should regularly carry out group activities such as entertainment, fitness and public speech to enrich the cultural life, promote communication and exchanges between colleagues, and stimulate and nurture the sense of identity and sense of belonging to the hospital.

6.4 Individual level of the clinicians

6.4.1 Establish a harmonious and mutually-assisting team relationship

When encountering problems in work, clinicians should establish a teamwork relationship of mutual communication and mutual discussion, and jointly diagnose and solve

medical problems. The medical backbones should promote the spirit of mutual help and mutual assistance, actively participate in the cooperation, communicate collectively in the face of major decision-making, and reach consensus after collective consultation.

6.4.2 Co-create and share career achievements

Apart from harmony and mutual assistance in team relations, clinicians should also co-create and share career achievements in clinical practice, teaching and scientific research, and form a unique core competitiveness of medical backbones. On this basis, human resources should be rationally allocated in the team, the medical staff are trained respectively in clinical medicine, teaching and scientific research so as to form a star-studded medical talent system. In this way, the clinicians can truly feel the growth, achievements, and contribution of themselves.

6.5 Research innovations

On the basis of a full review of previous studies, with a combination of qualitative and quantitative methods, this thesis selects three case hospitals, including two level 2A hospitals and a level 3A hospital, to explore the relationship between clinician organization career management, career growth, organizational commitment and turnover intention. The innovations are mainly as follows.

(1) The selected cases are representative. In the face of China's complex medical service system and the public hospital grading system of three classes and ten levels, this study has selected the Liwan Hospital of the Third Affiliated Hospital of Guangzhou Medical University (level 2A), the Liwan District People's Hospital of Guangzhou (Level 2A) and the Third Affiliated Hospital of Guangzhou Medical University (Level 3A) to carry out large-scale survey. As the survey samples cover both secondary and tertiary public hospitals, the research results are more credible than research on only one level of hospitals. In addition, since the selected samples contain both secondary and tertiary public hospitals, the difference between the two levels of hospitals can be compared from the data, and it can also be used as a sub-sample to verify the robustness of the major conclusions.

(2) The questionnaire design is concise and reasonable. In fact, before the study, scholars have designed a large number of questionnaires for organizational career management, career growth, organizational commitment, and turnover intention. In addition to the turnover

intention, the questionnaires designed for the other three variables generally include more than a dozen items in several dimensions. Under the framework of this study, if the questionnaires designed in the previous study are used without adjustment, the overall amount of the questionnaire items will be too large, and the respondents will be impatient psychologically, thus reducing the quality of the questionnaire. In order to solve the problem, this study considers the most important dimension of each variable in the Chinese context and greatly simplifies the number of questionnaire items. The collected data indicate that the four sets of questionnaires can pass the test of validity and reliability, which means the questionnaire can accurately reflect the career management, career growth, organizational commitment and turnover intention of the clinicians interviewed and the questionnaire design is effective and feasible.

(3) The research methods are more advanced and reliable, and the theoretical hypothesis that career growth is the mediator variable in the influence of organizational career management on turnover intention is verified. Based on the data obtained from the questionnaire, this study uses a combination of comparative analysis, correlation analysis and structural equation modeling to conduct a detailed analysis. The empirical results show that the hypothesis on the relationship between the four important variables is supported, that is, organizational career management can influence turnover intention through career growth and organizational commitment. The theoretical hypothesis that career growth is the mediator variable in the influence of organizational career management on turnover intention is verified, which is rarely mentioned in previous studies. In addition, this study has also verified the impact of some basic attributes on the above four important variables, and to a certain extent enriched the research on organizational career management, career growth, organizational commitment and turnover intention.

6.6 Research limitations and suggestions for future research

Based on the existing literature, this study has conducted model design and field research and obtained some research achievements, but there are still some shortcomings as follows:

(1) Due to the research team’s energy and various objective obstacles, a study often cannot cover all variables. There is no exception to this study. For example, psychological characteristics such as perception and personality are not examined in individual attributes. In addition, job satisfaction that has been confirmed to have a significant impact on turnover

intention is not included in the framework of this study.

(2) Under the framework of this study, there is no consideration of whether there is a reverse causal relationship between variables. The conclusions of this study show that career management, organizational commitment, and career growth negatively affect clinicians' turnover intention, but there is no exploration on whether turnover intention adversely affects other variables.

(3) The scales used in this study are all ordinal measurement ones, that is, the respondents are required to score according to the psychological state, and then the researchers sum the scores of the items with the same attributes and analyze the scores after the summation. Although this method has become a routine analytical method in the field, it has undoubtedly improved the level of information. In addition, this study only conducts the cross-sectional survey at the same time point, and does not conduct follow-up survey. Such a research method often makes the conclusions lack of persuasiveness.

(4) Due to the limitation of time and the degree of cooperation of the surveyed hospitals, the scope of research in this study is limited to three hospitals, and whether the conclusion is universal or not remains to be tested.

In response to the research limitations, future research can be further explored from the following perspectives:

First, there can be an attempt to conduct follow-up research. By investigating the psychological changes of medical staff before and after the implementation of a certain system, the future research can explore the psychological and behavioral changes of the medical staff caused by the change of the system so as to strengthen the test of causality between variables.

Second, subsequent research can try to expand the research scope and increase the sample size to increase the generalizability of the conclusions.

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Appendix: Questionnaire of Turnover Intention of clinicians in Public Hospitals of Guangzhou

Questionnaire Serial Number: Hospital Serial Number:

Institution Level:

Respected medical colleagues:

We carry out this research with an aim to understand the turnover intention of clinicians in public hospitals in Guangzhou so as to provide a scientific basis for the government and hospital administrators to formulate relevant policies to improve the working environment of doctors. The study is conducted anonymously, and there are no right or wrong answers. The research data will be kept confidential, so please do not have any misgivings. Thank you for your support and assistance. We wish you good health and good luck!

If you have any questions, please contact us.

TEL:_____E-mail:_____

Research Group

★Instruction: Please choose the answer in line with your actual situation and tick "√" in the corresponding box, and please do not miss any items.

Ⅰ. Basic Information

1. Your gender:①Male ②Female
2. Your age: ①Below 25②26-35③36-45④46-55⑤Over 56
3. Your marital status: ①Married ②Unmarried ③Others (such as divorce)
4. Number of your children: ①1②2 ③More than 2④None
5. Your educational background:

   A. Below college degree B. College degree C. Bachelor's degree D. Master's degree E. Doctoral degree
6. Your working years:

   ①Less than 1 year ②1-3 years ③4-5 years ④5-10 years ⑤11-20 years ⑥More than 20 years
7. Your family monthly income per capita:

①Less than 5,000 yuan ②5,001-10,000 yuan ③10001-15000 yuan ④More than 15,000 yuan

8. Your employment form: ①Staffing of government affiliated institutions ②Contracted employees

9. Your professional title:

①Resident physician ②Attending physician ③Associate chief physician ④Chief physician

10. Your length of service in your current organization:

①Less than 5 years ②6-10years ③11-15 years ④15-20 years ⑤More than 21 years

Ⅱ. Organizational Career Management Questionnaire

Please give the score according to your actual situation by ticking "√" in the corresponding box, "1" representing "strongly disagree or extremely bad situation" and "5" representing "strongly agree and extremely good situation". The degree increases progressively from 1 to 5.

	Evaluation Contents	1	2	3	4	5
1	The hospital promotes medical staff with good performance.	□	□	□	□	□
2	The hospital promotes medical staff according to achievements.	□	□	□	□	□
3	The hospital promotes medical staff according to capability.	□	□	□	□	□
4	The hospital offers fair competition opportunities to every medical personnel.	□	□	□	□	□
5	The hospital has clear promotion standards.	□	□	□	□	□
6	The hospital reviews medical staff in public.	□	□	□	□	□

Ⅲ. Career Growth Questionnaire

Please give the score according to your actual situation by ticking "√" in the corresponding box, "1" representing "strongly disagree" and "5" representing "strongly agree". The degree increases progressively from 1 to 5.

	Evaluation Contents	1	2	3	4	5
1	I feel a step closer to my career objective with my current job.	□	□	□	□	□
2	The current job is related to my career objective and career growth.	□	□	□	□	□
3	The current job has laid a foundation for the realization of my career objective.	□	□	□	□	□
4	The current job offers me good opportunities for my development.	□	□	□	□	□
5	The current job prompts me to master new work-related skills.	□	□	□	□	□
6	The current job prompts me to master new work-related knowledge.	□	□	□	□	□
7	The current job prompts me to accumulate richer work experience.	□	□	□	□	□