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Relations among Perceived Justice, Work Engagement, Organizational
Commitment and Turnover Intention of Medical Workers

Yang Tiecheng

Doctor of Management

Supervisor:
PhD Henrique Duarte, Associate Professor
ISCTE University Institute of Lisbon

December, 2021



BUSINESS
SCHOOL

Marketing, Operations and General Management Department

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Abstract

Taking hospitals at different levels in Shenzhen city as the research object, this thesis explored the influencing factors related to Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers as well as their relations through literature review, questionnaire, Structural Equation Modeling (SEM) and statistical analysis, so as to provide scientific reference for hospital managers to optimize corresponding policies.

Based on literature review and data analysis, this research forms seven hypotheses revolving around Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention. Except the hypothesis that Perceived Justice indirectly affects Turnover Intention through Work Engagement, the other hypotheses are all valid. The results showed that, there are positive correlations between Perceived Justice and Organizational Commitment, and between Perceived Justice and Work Engagement; there are negative correlations between Perceived Justice and Turnover Intention, Organizational Commitment and Turnover Intention, and between Work Engagement and Turnover Intention; and Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention.

On account of the study result, this thesis provided countermeasures and suggestions for hospital managers: Establish a scientific and reasonable performance-based compensation system to increase the Perceived Justice among medical workers; improve the career planning of medical workers and stabilize the talent team of hospitals; implement flexible management and provide more humanistic care to improve medical workers' sense of belonging; create a corporate culture that encourages employees' participation and thus enhance their sense of ownership; establishing an analytical system of turnover control to build an effective talent retention strategy.

Keywords: Medical workers; Perceived Justice; Work Engagement; Organizational Commitment; Turnover Intention

JEL: I1; M12

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Resumo

Baseando-se em hospitais de diferentes níveis na cidade de Shenzhen, esta tese explorou os fatores influenciadores associados à Justiça Percebida, Envolvimento no Trabalho, Compromisso Organizacional e Intenção de saída dos trabalhadores da saúde, bem como suas relações. Foi efetuada uma revisão de literatura, aplicação de questionários, e a análise estatística através de Modelos de Equações Estruturais (SEM), de modo a fornecer uma base científica para os gestores hospitalares otimizarem as suas políticas.

Com base na revisão de literature e em estudos empíricos anteriores, esta pesquisa formula sete hipóteses que se focam na Justiça Percebida, Envolvimento no Trabalho, Compromisso Organizacional e Intenção de Saída. Exceto a hipótese de que a Justiça Percebida afeta indiretamente a Intenção de Saída por meio do Envolvimento no Trabalho, as demais hipóteses foram todas validadas. Os resultados mostraram que há relações positivas entre Justiça Percebida e Compromisso Organizacional; entre Justiça Percebida e Envolvimento no Trabalho; há correlações negativas entre Justiça Percebida e Intenção de Saída, Compromisso Organizacional e Intenção de Saída; entre o Envolvimento no Trabalho e Intenção de Saída; o Compromisso Organizacional desempenha um papel mediador na relação negativa entre a Percepção de Justiça e a Intenção de Saída.

Em função dos resultados desta pesquisa, esta tese apresenta medidas e sugestões para os gestores hospitalares: Estabelecer um sistema de remuneração baseado no desempenho razoável para aumentar a Percepção de Justiça entre os trabalhadores de saúde; melhorar o planejamento de carreira dos trabalhadores de saúde e reter os talentos das equipas hospitalares; implementar uma gestão flexível e prestar cuidados mais humanizados para melhorar o sentimento de pertença dos trabalhadores de saúde; criar uma cultura corporativa que incentive a participação dos funcionários e, assim, aumente seu sentido de pertença; estabelecer um sistema de análise e controle de saídas para formular uma estratégia eficaz de retenção de talentos.

Palavras-chave: Trabalhadores da saúde; Justiça percebida; Envolvimento no Trabalho; Compromisso Organizacional; Intenção de Saída

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摘 要

本研究以深圳市不同等级的医院为研究对象，通过文献研究法、问卷调查法、结构方程模型、统计分析方法等探讨医务工作者薪酬公平、工作投入、组织承诺以及离职倾向的影响因素及关系，为医院管理者制定优化政策提供科学参考依据。

在文献研究和数据分析的基础上，本研究围绕薪酬公平、工作投入、组织承诺、离职倾向构建了 7 个假设。通过分析研究，7 个研究假设中除了薪酬公平通过工作投入间接影响离职倾向假设不成立，其他假设都成立。分析研究结果显示，医务工作者薪酬公平与组织承诺、工作投入存在正向相关关系；薪酬公平、组织承诺、工作投入与离职倾向存在反向相关关系；组织承诺在薪酬公平和离职倾向之间的反向相关关系中起中介作用。

基于分析结果，本研究给医院管理者提出了对策建议：建立科学合理的绩效薪酬制度，增加医务工作者薪酬公平感；加强医务工作者的职业生涯规划，稳定医院人才队伍；增加柔性管理和人文关怀，提高医务工作者的归属感；营造鼓励员工参与的文化氛围，增强医务工作者的主人翁意识；建立离职控制分析体系，建立有效的人才保持策略。

关键词：医务工作者；薪酬公平；工作投入；组织承诺；离职倾向

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Contents

Chapter 1: Introduction	1
1.1 Research background	1
1.1.1 Importance.....	1
1.1.2 Policy background.....	2
1.1.3 Current situation.....	3
1.2 Research objective.....	8
1.3 Research methods.....	8
1.3.1 Literature review	8
1.3.2 Questionnaire method	9
1.3.3 Statistical analysis method	9
1.3.4 Correlation analysis and SEM.....	9
1.4 Thesis frame	10
Chapter 2: Literature Review	13
2.1 Research on Perceived Justice.....	13
2.1.1 Perceived Justice	13
2.1.2 Theoretical research on Perceived Justice.....	14
2.1.3 Classification of Perceived Justice.....	15
2.1.4 Influencing factors of Perceived Justice.....	17
2.2 Research on Work Engagement	19
2.2.1 Definition and classification of Work Engagement	19
2.2.2 Theoretical model of Work Engagement	21
2.2.3 Research on influencing factors of Work Engagement.....	22
2.3 Organizational Commitment	25
2.3.1 Definition and classification of Organizational Commitment	25
2.3.2 Structure and measurement of Organizational Commitment.....	26
2.3.3 Influencing factors of Organizational Commitment	28
2.4 Turnover Intention.....	30
2.4.1 Definition and classification of Turnover Intention	30
2.4.2 Influencing factors and measurement of Turnover Intention.....	31
2.4.3 Turnover models	34

2.5 Research on relations among Perceived Justice, Organizational Commitment, Work Engagement and Turnover Intention.....	37
2.5.1 Research on the relation between Perceived Justice and Organizational Commitment.....	37
2.5.2 Research on the relation between Perceived Justice and Work Engagement ...	38
2.5.3 Research on the relation between Perceived Justice and Turnover Intention ...	40
2.5.4 Research on the relation between Organizational Commitment and Turnover Intention	42
2.5.5 Research on the relation between Work Engagement and Turnover Intention.	44
2.6 Summary of literature review and proposal of research hypotheses.....	45
2.6.1 Summary of literature review.....	45
2.6.2 Proposal of research hypotheses	45
Chapter 3: Research Design and Data Collection	49
3.1 Methodology	49
3.1.1 Design of the questionnaire.....	49
3.1.2 Field survey	49
3.1.3 Data collation	50
3.2 Data collection and combing.....	52
3.2.1 Questionnaire contents	52
3.2.2 Basic information of the subjects	57
3.3 Analysis of the questionnaire’s reliability and validity.....	61
3.3.1 Analysis of reliability and validity	61
Chapter 4: Research Results.....	65
4.1 Analysis of Perceived Justice.....	65
4.1.1 Distributive Justice (B).....	65
4.1.2 Interactional Justice (E).....	67
4.1.3 Procedural Justice (F).....	69
4.2 Analysis of Work Engagement	71
4.3 Analysis of Organizational Commitment.....	73
4.3.1 Organizational Commitment 1 (H)	73
4.3.2 Organizational Commitment 2 (I)	75
4.4 Analysis of Turnover Intention	77
4.5 Evaluation of differences in hospital salary incentives mechanism.....	79
4.6 Correlation analysis.....	81
4.6.1 Hypotheses	81

4.6.2 Relations among the three variables of Perceived Justice (Distributive Justice, Procedural Justice, Interactional Justice), Organizational Commitment, Work Engagement and Turnover Intention.....	82
4.6.3 Relations among Perceived Justice, Organizational Commitment, Work Engagement and Turnover Intention.....	84
4.6.4 The relation of all variables.....	94
4.6.5 Verification results	94
Chapter 5: Discussion.....	96
5.1 Discussion on the results of Perceived Justice analysis	96
5.2 Discussion on the results of Work Engagement analysis.....	97
5.3 Discussion on the results of Organizational Commitment analysis	97
5.4 Discussion on the results of Turnover Intention analysis	98
5.5 Discussion on the verification results of research hypotheses	99
5.5.1 There is a positive correlation between Perceived Justice and Organizational Commitment.....	99
5.5.2 There is a positive correlation between Perceived Justice and Work Engagement.	99
5.5.3 There is a negative correlation between Perceived Justice and Turnover Intention	100
5.5.4 There is a negative correlation between Organizational Commitment and Turnover Intention.....	100
5.5.5 There is a negative correlation between Work Engagement and Turnover Intention.	101
5.5.6 Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention.....	101
5.5.7 Work engagement plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention	102
Chapter 6: Conclusions and Suggestions	104
6.1 Conclusions	104
6.2 Theoretical contribution	104
6.3 Policy suggestions.....	105
6.3.1 Establishing a scientific and reasonable performance-based compensation system to make medical workers feel fairer about their salaries.....	105
6.3.2 Strengthening the career planning of medical workers to promote the construction of hospitals' talent teams	106

6.3.3 Enhancing soft management and humanistic care to improve medical workers' sense of belonging.....	107
6.3.4 Creating a cultural atmosphere that encourages staff participation to enhance medical workers' sense of ownership	108
6.3.5 Establishing an analytical system of turnover control to build an effective talent retention strategy	109
6.4 Shortage and prospect of the research.....	110
Bibliography.....	112
Webliography	130
Annex A: Questionnaire on the Relationship between Pay Fairness, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers.....	132
Annex B: Relevant Tables.....	142

List of Tables

Table 3.1 Basic information of respondents	58
Table 3.2 Reliability analysis results of each scale	61
Table 4.1 One-way analysis of variance in Distributive Justice (B)	65
Table 4.2 One-way analysis of variance in Interactional Justice (E)	67
Table 4.3 One-way analysis of variance in Procedural Justice (F)	69
Table 4.4 One-way analysis of variance in Work Engagement (D)	71
Table 4.5 One-way analysis of variance in Organizational Commitment 1 (H)	73
Table 4.6 One-way analysis of variance in Organizational Commitment 2 (I).....	75
Table 4.7 One-way analysis of variance in Turnover Intention (J)	78
Table 4.8 One-way analysis of variance in the evaluation of differences in hospital salary system (G)	79
Table 4.9 Path analysis result of Model 4	85
Table 4.11 Path analysis result of Model 5.....	87
Table 4.12 Effect relationship among variables in Model 5.....	87
Table 4.13 Path analysis result of Model 6	88
Table 4.14 Effect relationship among variables in Model 6.....	88
Table 4.15 Multivariate linear regression result of Perceived Justice, Organizational Commitment and Turnover Intention	89
Table 4.16 An analysis of the relationship between Perceived Justice and Turnover Intention through Work Engagement.....	90
Table 4.17 Effect relation of Perceived Justice’s indirect effect on Turnover Intention through Work Engagement	90
Table 4.19 Mediating effect of Work Engagement and Organizational Commitment on the relationship between Perceived Justice and Turnover Intention	93
Table 4.20 Bootstrap mediating effect test of mediating model.....	93
Table 4.21 The multivariate linear regression result of Perceived Justice, Organizational Commitment, Work Engagement and Turnover Intention	94
Table 4.22 Relation between all variables.....	94
Table 4.23 Verification results of the hypotheses	95

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List of Figures

Figure 2.1 Theoretical model	48
Figure 4.1 Final equation model diagram of Model 4.....	85
Figure 4.2 Final equation model of Model 5.....	86
Figure 4.3 Final equation model of Model 6.....	88
Figure 4.4 Final equation model of Model 7.....	90

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List of abbreviation

ERG: Existence、 Relatedness and Growth

ICU: Intensive Care Unit

CEO: chief executive officer

SEM: Structural Equation Modeling

CNKI: China National Knowledge Infrastructure

SPSS: Statistical Product and Service Solutions

SWB: subjective well-being

PWB: psychological well-being

KMO: Kaiser-Meyer-Olkin

AMOS: Analyse of moment structures

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Chapter 1: Introduction

1.1 Research background

1.1.1 Importance

Talents are the most fundamental driving force for the sustained development of a country. As the reform of the medical industry deepens, human resources play an irreplaceable role in enhancing the core competitiveness of hospitals. As is stated by General Secretary Xi Jinping (2016) in the *Opinions on Deepening the Reform of Personnel Development System and Mechanism*: China's success hinges on the Party, the people and the talents. The competition of the medical market is the scramble for medical and health talents in the final analysis. As the primary resources of hospital, human resources are directly related to the coordination among various departments in a hospital, the achievement of business goals, and the ability and quality of sustainable development of the hospital (Ma, 2018).

According to the *Statistical Bulletin on the Development of Health Undertakings 2019* released by the State Department of Planning, Development and Information, the total number of health practitioners in China reached 12.928 million by the end of 2019, with an increase of 0.628 million (up by 5.1%) over the previous year; of which, 10.154 million were health technicians, 0.842 million were rural doctors and health workers, 0.504 million were technicians of other specialties, 0.544 million were managers and 0.884 million were skilled workers; 7.782 million worked in hospitals (accounting for 60.2%), which obviously showed that medical workers are the main driving force for hospitals' development.

In recent years, along with the deepening of China's medical and healthcare reform and the continuous opening of the medical market, the medical sector is full of competition and opportunities. On the one hand, a large amount of private capital has entered the medical industry, and there are more and more private hospitals; on the other hand, public tertiary hospitals with strong strength have expanded their markets in a medical group model. The acquisition of outstanding talents has gradually become an important means of competition among hospitals, and human resource advantages have also become an important way for hospitals to establish and maintain their competitive advantages. Therefore, it is a challenge for the medical industry to improve hospital human resources management, make medical workers

the “driver” of hospital’s sustainable development, and help hospitals to achieve their development goals. Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention are important aspects that affect the attitude, behavior and main role of medical workers.

1.1.2 Policy background

At present, China’s new medical reform advocates performance-based pay reform in public hospitals. According to *The 13th Five-Year Plan for National Health and Family Planning Talent Development* issued by the former National Health and Family Planning Commission of China and the *Central Committee of the Communist Party of China: Recommendation for the 13th Five-Year Plan for Economic and Social Development* adopted at the Fifth Plenary Session of the 18th CPC Central Committee, it is necessary to fully consider the medical industry’s long training period, high occupational risks, high technical difficulties and heavy responsibilities. Moreover, it’s required to establish a system that is in line with the characteristics of the medical industry, which plays a very important role in establishing the incentive orientation of public hospitals and further mobilizing the enthusiasm, initiative and creativity of medical staff. China has also introduced many related policies on the reform of performance pay for medical staff: (1) In 2009, the *Opinions of the CPC Central Committee and the State Council on Deepening Reform of the Medical and Healthcare System* proposed to reform the personnel system, improve the incentive mechanism for performance pay distribution, implement the standardized and feasible employment system and job management system, strictly manage the total salary, and carry out a comprehensive performance assessment and job performance pay system based on service quality and job workload, so as to effectively mobilize the motivation of medical staff. (2) In 2012, the State Council also pointed out in the *Plan for Deepening Reform of the Medical and Healthcare System during the 12th Five-Year Plan Period* that it is necessary to improve the performance evaluation and assessment mechanism. Specifically, on the basis of the steady implementation of performance-based pay, some regions may appropriately increase the proportion of incentive performance-based pay, insist on getting more pay for heavier workload or better performance, and give priority to key positions, business backbone and personnel who have made outstanding contributions, so as to reasonably widen the income gap and mobilize the enthusiasm of medical staff. (3) In the nursing field, the former National Health and Family Planning Commission of China issued the *Guiding Opinions on Implementing Post Management of Nurses in Hospitals (2012)*, which drove nursing managers

and researchers to continuously explore how to better motivate clinical nurses to present a positive emotional and working state from the perspectives of organizational management and post management. (4) In its *Report on the Work of the Government 2014*, the Chinese government stressed the need to improve the pay system for medical staff and others that are in line with the characteristics of the industry. (5) In 2016, the State Council issued *Notice on Deepening Reform of the Medical and Healthcare System during the 13th Five-Year Plan Period*, which specifically stated that a personnel and pay system that conforms to the characteristics of the medical and healthcare industry should be established. (6) In 2017, the Ministry of Human Resources and Social Security, the Ministry of Finance, the former National Health and Family Planning Commission, and National Administration of Traditional Chinese Medicine stated in the *Guiding Opinions on the Implementation of the Pilot Project for the Reform of the salary System of Public Hospitals* that improving the pay system of public hospitals is related to the vital interests of medical staff and the effectiveness of medical reform; establishing a pay system for public hospitals that conforms to the characteristics of the medical industry and reflects the value-oriented knowledge is of great significance in ensuring the incentive orientation, enhancing the public welfare, mobilizing the enthusiasm, initiative and creativity of medical staff, and promoting the development of public hospitals.

1.1.3 Current situation

A hospital is a public welfare organization that undertakes the obligation of saving lives and helping the injured, as well as addresses the growing demand for medical services. With the further advancement of medical system reform and the increasingly fierce competition in the medical market, hospitals have become a part of the fierce market competition, facing more and more pressures and challenges. Public hospitals, in particular, not only have to bear the responsibility of social public welfare, but also have to deal with the competition from hospitals with diversified economic entities. In terms of how to maintain hospitals' market share and promote their sustainable development, hospital management plays a key role. Therefore, it is imperative for hospitals to adjust their business management strategies, especially to adjust their human resource management strategies. After all, the competitiveness of human resources is the core competitiveness of modern hospitals.

Innovative changes in hospital management are not only to improve the overall medical level, but also to further enhance the quality of services. Both the medical level and the service quality are closely related to the hospital staff. In the process of implementing innovative

changes, hospitals may pass on the pressure they face to their employees, especially medical workers, which increases their work pressure to some extent, such as self-motivation, sense of responsibility, and the need to expand and master knowledge and skills. In order to adapt to medical reforms, medical staff are not only required to improve their original behavior patterns, but also to have strong internal motivation to support themselves. Therefore, while the improvement of technology and systems is significant, what is more important is that it ultimately works through human behavior in medical reforms. When medical workers are faced with a series of change pressures such as high work risks, as well as the heavy workload, responsibility and stress, problems such as how to improve their sense of Perceived Justice, loyalty and sense of belonging to the organization, and how to maximize their work beliefs and potentials have become important issues for hospitals.

In recent years, the justice of pay systems has received widespread attention from governments and academics at home and abroad. In the field of economics and management, the issue of justice has always been a hot topic. Justice is a constant theme in the pursuit of ideal society for human beings, and also a value orientation for the progress and development of human society, fully reflecting people's humanitarian pursuit of the distribution relationship among people in real society. Justice is not only related to how to rationally allocate the scarce resources of the society, but also related to the stability of the whole social order and the sustainable development of the social economy. Justice at the social level concerns the rationality and fairness of the whole social order and social class, which is the basic guarantee for people to live and work in peace and happiness; justice at the organizational level involves incentives, distribution and other aspects of interpersonal and information interaction, which is related to the overall effectiveness, cohesion and competitiveness of the organization (Wang, 2017). A sense of justice will increase employees' trust in the organization. If employees are in a fair organizational atmosphere, they will show correct work attitudes and behaviors, and better solve problems in the organization and respond to reforms and changes (Zhao et al., 2002). And pay, as an important measure for organizations to improve their competitiveness, has begun to be valued by many hospitals and has become one of the important research issues in hospital management activities. A strong sense of Perceived Justice is conducive to attracting and retaining talents to better serve the organization, improving employees' enthusiasm for work, and keeping their goals in line with organizational goals, which is a weapon for organizations to gain competitive advantages (Bergmann, 2004). Employees often judge whether they are satisfied with the pay of their work and whether the pay system of their organization is fair, and this kind of judgment can be explained by the Equity Theory. People make various comparisons

and subjectively compare their own efforts with their rewards and those of others to determine whether the organization is paying them fairly. From the perspective of Income Distribution Theory, people compare their own salary internally and externally. If they perceive unfairness, they are prone to feel the loss of resource and being mistreated, which affects their attitudes and behaviors and ultimately leads to Turnover Intention (Zhao, 2010; Wan & Qiao, 2019; Tang et al., 2019; Tian, 2012). Researches by Schneider et al. (2003) and Huang (2004) show that if employees feel the justice of received pay, their organizational loyalty will be improved, and their turnover intention and behavior will be reduced; and at the same time, companies' ability to retain talent will also improve.

Work Engagement determines the effectiveness of organizational operation to a certain extent (An et al., 2009). There is a close relationship between employees' Perceived Justice and their Work Engagement. In the development of the hospital, Perceived Justice directly affects the work enthusiasm and Work Engagement of a doctor. The higher the employees' perception of justice is, the more engaged they are in work, and the greater the degree of performance in Work Engagement will be (Tian, 2012). It is of great practical significance to motivate employees, increase their Work Engagement, improve their work efficiency, give full play to their potential and improve the quality of their lives and work. However, the work enthusiasm must be mobilized socially and psychologically, and pure material rewards should be avoided as the only means of motivation; the influencing factors of Work Engagement such as positive work emotions and positive work attitudes have a significant positive impact on employee performance (Nan, 2011). As knowledge-based talents, most medical workers mainly make contributions to the knowledge structure of doctors through mental work, which needs long-term study and exercise. Their positions are irreplaceable. The cost of replacing these talents is huge, especially the departure of backbone talents, which may also cause patients to reduce the recognition of the overall medical level of the hospital. If these talents feel that their profession is not well developed in the organization, they may develop the idea of leaving (Zhang, 2018).

Current research shows that at the individual level and organizational level, employees with high Work Engagement have higher job satisfaction, emotional commitment, role performance, well-being, physical and mental health, as well as lower Turnover Intentions and work-family conflicts (Saks & Gruman, 2014; May et al., 2004; Yang, 2019). In the current medical environment, medical staff are at the forefront of medical and healthcare services, exposing to various diseases and deaths every day. With a high degree of concentration for a long time, if the body and mind cannot be relaxed in a timely and effective manner, the working condition,

emotion and attitude of medical staff will affect their work ability and work performance (Yang et al., 2017).

With the development of society, Organizational Commitment has become a major focus of research in organizational behavior, psychology and management, improving employees' sense of identity and belonging to the organization, and winning employees' loyalty and support to the organization have gradually become an inevitable requirement of modern organizational behavior management (Li & Li, 2010; Zhu, 2007). As the reform of the medical and healthcare system advances in China, commitment of medical workers has become an important issue for hospital managers, predicting the level of medical workers' Organizational Commitment and proposing corresponding solutions are conducive to stabilizing hospitals' talent team and improving the quality of medical care. Perceived Justice has a positive impact on Organizational Commitment (Chen & Wu, 2006; Xiao, 2009; EIDin & Rahman, 2013). As an employee attitude variable, Organizational Commitment affects employees' job performance, their sense of identity and belonging to the organization, thereby affecting their Turnover Intention (Zheng et al., 2018). Medical workers are the providers of medical services and the guarantors of medical quality. Their Organizational Commitments can truly reflect their loyalty and commitment to the hospital, but they are often overlooked by hospitals and managers; with the rapid development of economic globalization and the medical industry, talents have more employment options, which poses greater challenges for hospitals to retain suitable talents. A stable and outstanding talent team is an important guarantee for the hospital to achieve sustainable development and maintain its competitiveness (Li & Li, 2019; Tian, 2014; Zhu, 2007).

In recent years, factors such as the rapid development of the times, the further domestic economic supply-side reforms, the profound changes in the employment environment and employees' increased job requirements, have combined to make it common for domestic enterprises and institutions to have unstable employee teams and rising turnover rates year by year. Therefore, it becomes very important for enterprises and institutions to attract, cultivate and retain talents effectively (Guo, 2020). An organization must be effectively managed to accomplish its goals or vision, and its various management functions need to be completed by people, so it is obvious that human resource management is very important. Employees' resignation may cause major damage to the organization for increasing cost of personnel, training and education as well as depressing the morale of the remaining colleagues. Therefore, the issue of employee resignation has always been the focus of research on human resources, behavioral science, and corporate organization (Huang, 2004). According to the *Compensation*

White Paper released by a world authoritative organization in 2010, the total employee turnover rate of Chinese companies is 8.55%, which is significantly higher than the average level of other countries. Therefore, it is easy to trigger a series of problems such as rising operating costs and declining efficiency, which seriously restrict the development of enterprises. Actually, employees' resignation has become the focus of social attention and a major issue that enterprises urgently need to solve. According to the *Compilation of Talent Development Reports in the Medical Industry* released by DXY and DX Talent, the proportion of doctors, nurses and pharmacists who often have the idea of changing jobs is 24.7%, 22.0% and 17.1% respectively; the voluntary turnover rate of medical practitioners has basically remained at 7-8% in the past five years; with the average turnover rate remaining within 5% over the years, the voluntary turnover rate of public hospitals is significantly lower than that of private hospitals. Before the outbreak of novel coronavirus, the average expected salary increase of medical workers for job-hopping was 40.7%, and the value dropped to 31.4% after the outbreak. Compared with other industries, the medical industry shows a relatively stable staff turnover. Salary and benefits, promotion and development have become the most important factors for medical practitioners when applying for jobs for four consecutive years. 87.2% of medical staff indicated that salary and benefits were the primary concern when applying for a job; personal promotion ranked second with 55.1%; and job content and job intensity ranked third and fourth respectively with nearly 50% of the votes. However, the quantity, quality and professional structure of the hospital's health manpower and its balanced distribution will directly affect the hospital's service capacity and service level. The mobility of medical staff is a "double-edged sword". On the one hand, a certain turnover rate can inject new vitality to the hospital and introduce new ideas and concepts; on the other hand, an excessively high turnover rate will seriously affect the performance of the hospital and increase personnel cost, lead to technical departures, and even affect the construction of disciplines and even the development of the entire hospital (Zhou, 2012). In recent years, with the continuous reform of the medical and healthcare system and the increasingly fierce medical competition, the turnover rate of health talents, especially outstanding talents, has continued to rise, which has increasingly troubled hospital managers. Therefore, how to retain and select talents, reduce the turnover rate of medical staff, maintain the relative stability of medical and health manpower, and realize the "Pareto Optimality" of human resource allocation has become an important issue in the hospital's strategic management of human resources (Zeng & Wang, 2015). More empirical studies have shown that Organizational Commitment is a good indicator for predicting employees' turnover intentions, and many human resource managers in companies have begun to use it as an

indicator to measure the stability rate of employees and take timely measures to reduce the turnover of key employees (Ling et al., 2000; Yuan et al., 2007). The unbalanced distribution of pay system is a very important factor affecting the resignation of medical staff. Therefore, how to give full play to the role of Perceived Justice, Work Commitment and Organizational Commitment, and how to solve the impact of resignation issues have become the focus of hospital managers.

Against this backdrop, and based on the SEM, this thesis conducted an integrated research on the relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention and clarified their respective functions so as to provide scientific reference for hospital managers to give full play to the positive roles of medical workers and enhance the core competitiveness of hospital.

1.2 Research objective

Through analyzing the current situation of Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers and discussing influencing factors of and relations among the above four, this thesis aims to provide scientific reference for hospital managers to give a full play to the positive roles of medical workers and improve the core competitiveness of hospital.

1.3 Research methods

Based on the disciplines of management, psychology, and organizational behavior, this thesis used questionnaire method and other empirical research methods to deeply explore the influencing factors and relationships of medical workers' Perceived Justice, Work Commitment, Organizational Commitment and Turnover Intention, so as to provide a scientific reference for hospital managers to formulate optimal policies. In this thesis, the following methods were used to conduct the research:

1.3.1 Literature review

By making use of the relevant books, theses, websites and other forms of literature materials in databases such as Qikan China, China National Knowledge Infrastructure(CNKI), National Digital Library of China and Wanfang Database, the researcher conducted literature review to extensively and systematically review relevant literature, understand the concepts about

Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention, and establish the research framework of this thesis. Therefore, the thesis could clarify the shortcomings of existing research in this field, sort out the relevant theoretical bases and methods at home and abroad, and propose the necessity of this study. The analysis of existing literature provided a solid theoretical basis for the research hypotheses, model construction and logical deduction.

1.3.2 Questionnaire method

Questionnaire method is a way to obtain first-hand data, which can ensure the authenticity and reliability of the empirical study. Based on the review of relevant literature at home and abroad, the research referred to domestic and foreign scales with good reliability and validity and designed the first draft of the questionnaire according to the basic principles of questionnaire method. Through pre-survey, the questionnaire was optimized, modified and finalized with increased validity, reliability and accessibility. Questionnaires were distributed to hospitals of different levels in Shenzhen to investigate the views of medical workers on Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention so as to obtain the research data for empirical analysis, and the verification of proposed hypotheses and models.

1.3.3 Statistical analysis method

Based on the questionnaire survey data, SPSS was used to conduct reliability and validity test, descriptive statistics, mono-factor analysis and correlation analysis on the collected data, so as to analyze the relations among the studied variables and verify the hypotheses proposed in this thesis.

1.3.4 Correlation analysis and SEM

On the basis of literature review and other research methods, and through correlation analysis and SEM, this thesis studies the relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers and verifies the constructed hypothesis, aiming to put forward targeted countermeasures and suggestions for hospital managers.

1.4 Thesis frame

There are six chapters in this thesis:

Chapter One: introduction. It described the research background, research purpose, research methods and thesis framework.

Chapter Two: literature review. To understand Perceived Justice in depth by studying its concept, theoretical research, classification, influencing factors and measurement. To gain an in-depth understanding of Work Engagement by studying the concept, classification, theoretical model and influencing factors. To have a deep understanding of Organizational Commitment by studying its concept, classification, structure, measurement and influencing factors. To understand the research status of Turnover Intention through the concept, classification, factors, measurement and turnover model. By exploring the study of the relationship between Perceived Justice and Organizational Commitment, the study of the relationship between Perceived Justice and Work Engagement, the study of the relationship between Perceived Justice and Turnover Intention, the study of the relationship between Organizational Commitment and Turnover Intention, and the study of the relationship between Work Engagement and Turnover Intention, this part proposed research hypotheses among them and laid the foundation for the smooth development of the subsequent studies on the relationship among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention.

Chapter Three: research design and data collection. Through literature review and other methods, the researcher determined the content of the questionnaire and accordingly designed the questionnaire. In this thesis, medical workers of hospitals at different levels in Shenzhen were selected as research object, and questionnaires were issued to investigate their basic information and their views on Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention, and thereby research data were obtained.

Chapter Four: research results. SPSS was used for statistical analysis of such data as Perceived Justice, Work Engagement, Organizational Commitment, Turnover Intention and evaluation of differences in hospital salary incentives mechanism. Besides, seven hypotheses related to Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention were constructed on the basis of the SEM: (1) There is a positive correlation between Perceived Justice and Organizational Commitment; (2) There is a positive correlation between Perceived Justice and Work Engagement; (3) There is a negative correlation between Perceived Justice and Turnover Intention; (4) There is a negative correlation between Organizational Commitment and Turnover Intention; (5) There is a negative correlation between Work

Engagement and Turnover Intention; (6) Work Engagement plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention; (7) Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention. Meanwhile, according to theoretical hypothetical models, this study proposed seven hypothetical models: (1) Model 1: the relational model between the three variables of Perceived Justice (that is, distributive justice, procedural justice, and interactional justice) and Organizational Commitment; (2) Model 2: the relational model between the three variables of Perceived Justice and Work Engagement; (3) Model 3: the relational model between the three variables of Perceived Justice and Turnover Intention; (4) Model 4: the relational model between Perceived Justice and Organizational Commitment and Turnover Intention; (5) Model 5: The relational model between Perceived Justice and Work Engagement and Turnover Intention; (6) Model 6: the relational model of the mediating role of Organizational Commitment between Perceived Justice and Turnover Intention; (7) Model 7: the relational model of the mediating role of Work Engagement between Perceived Justice and Turnover Intention.

Chapter Five: discussion. This chapter mainly discussed the analysis results of Perceived Justice, Work Engagement, Organizational Commitment, Turnover Intention and research hypotheses verification.

Chapter Six: conclusions and recommendations. This chapter summarized this research and pointed out the theoretical contribution of the research. Moreover, it put forward countermeasures and suggestions for hospital administrators to play the active role of medical workers, enhance the core competitiveness of the hospital. At the same time, this part also pointed out the limitations and next steps of this research.

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Chapter 2: Literature Review

2.1 Research on Perceived Justice

2.1.1 Perceived Justice

In the academic circle, representative viewpoints of scholars on the definition of Perceived Justice include: Krackhardt and Porter (1986) referred to the concept of Perceived Justice in compensation and explained it from two aspects of Distributive and Procedural Justice. Salancik and Pfeffer (2010) defined Perceived Justice mainly from the perspective of Distributive Justice, believing that Perceived Justice is the degree of perceived fairness by individual employees about the distribution, reward and punishment system of the hospital; Zhang and Chen (2009) believe that Perceived Justice refers to the reasonableness and equality of compensation distribution. One important factor is whether the opportunity for compensation distribution is fair among different employees. And the other is whether the absolute level of compensation is reasonable, and whether the relationship between capital interests and labor interests is balanced and reflects the exchange of equal value principle in a market economy. Jiang (2007) holds that Perceived Justice is the judgment, perception or feeling of the members of the organization on the organization's compensation management and the compensation received on a subjective level. Li (2010) believes that Perceived Justice is an individual's feeling of justice about the compensation received, and it is a subjective judgment, the result of which can affect the individual's work attitude and behavior. Han and Li (2013) believed that Perceived Justice is employees' subjective feeling of the remuneration they received and the salary management system of the organizations they work for. Dong and Wang (2020) hold that Perceived Justice is the reasonableness and equality of compensation distribution, which not only includes the reasonableness and equality of the results of compensation distribution, but also the process, rules, and opportunities of distribution. That is, every employee has the same opportunity in any process and situation of compensation distribution. Internally, the compensation of employees is proportional to the relative value of the position in the entire staffing system in the company. Externally, the compensation of employees must be equal to, or higher than the salary level of similar positions in the labor market.

Through literature review, it is found that although scholars differed to a degree in the

details of the definition of Perceived Justice, they were consistent to a large extent in explaining the connotation. That is to say, they all believed that Perceived Justice is a subjective feeling of doctors about the compensation they receive. Meanwhile, the positive significance of Perceived Justice has been unanimously affirmed by many scholars.

2.1.2 Theoretical research on Perceived Justice

The Equity Theory in the incentive theory has brought about the Perceived Justice Theory. The incentive theory is mainly divided into the school of Content Theory, the school of Process Theory and the school of Reinforcement Theory. The Content Theory school focuses on exploring the elements of the individual's internal needs; the Process Theory school concentrates on the process of how to stimulate, guide, and maintain the individual behavior; and the Reinforcement Theory school focuses on how to motivate employees and how to maintain it for a long time (Tian, 2012).

① The Content Theory school includes three theories: the Hierarchy of Needs Theory, the Two-Factor Theory and the ERG Theory.

In the Hierarchy of Needs Theory, Maslow (1954) believes that humans are animal in needs. And human needs can be put into five categories: physiological needs, safety needs, love and belonging, esteem, and self-actualization. The physiological needs refer to the most basic and primitive physical needs to maintain human existence; safety needs refer to the need to protect the human body and mind from external threats and harms; love and belonging is the need for feelings, relationship with others, acceptance by others, and a sense of belonging for oneself. Esteem refers to the need to be respected by others, to satisfy the individual's self-esteem and sense of accomplishment, and to be recognized and valued; self-realization refers to the need to be able to exert the individual's potential, develop and improve oneself, and realize the ideal.

The American psychologist Herzberg (1959) put forward the Two-Factor Theory in the late 1950s, also known as the motivator-hygiene theory. After a lot of research and investigation, he finds that the reasons for employees' satisfaction and dissatisfaction are different. External factors often cause dissatisfaction of employees, and only the content of the work itself can bring satisfaction to employees. The hygiene factors are factors that fail to improve the enthusiasm and satisfaction of the employees even if the job environment and atmosphere are improved, and the dissatisfaction of the employees is somewhat reduced. The incentive factors are the factors that can make the employee feel very satisfied, improve the employee's work enthusiasm and motivation, when the employee feels being challenged and recognized. He

believes that having no satisfaction and no dissatisfaction is the zero state of motivation (Herzberg, 1959; Tian, 2012).

The ERG Theory is Alderfer's (1972) revision of Maslow's (1954) Hierarchy of Needs Theory. It simplifies needs into three kinds: the need for survival, the need for interrelationship, and the need for growth and development. The difference between his theory and the hierarchy of needs is that he believes that when high-level needs are not met, the individual will retreat to the pursuit of satisfying low-level needs. Alderfer (1972) also believes that there is no order when it is desired to meet multiple needs at the same time.

② The Process Theory school includes Expectancy Theory and Equity Theory. The Expectancy Theory, put forward by the American psychologist Vroom in his book *Work and Motivation* published in 1969, believes that after employees' performance is improved, the level of compensation will increase accordingly, which will enhance employees' motivation for work and further improve work performance; the relationship between effort and performance, the relationship between performance and reward, and the relationship between reward and personal needs are three pairs of relationships that need to be handled when applying the Expectancy Theory (Shi, 2003). American psychologist Adams put forward the Equity Theory in 1965 (Adams, 1965), the main point of which is that individuals will compare their own engagement and output with others. Lu's (1993) research showed that most employees feel unfair when they think their compensation is relatively low; however, sometimes the feeling of unfairness may also occur when the employee finds his or her compensation is too high, which may not last for a long time. Employees can re-evaluate the compensation-engagement ratio according to their own ideas. Therefore, when an unfair feeling occurs due to the relatively higher compensation, employees will gradually adjust themselves psychologically, eventually, they will gradually feel reasonable.

③ The reinforcement theory of motivation school mainly refers to the Reinforcement Theory, which is not aimed to explore the inner needs or ideas of the individual, but to find the relationship between the factors that restrict behavior and the environment (Tian, 2012).

2.1.3 Classification of Perceived Justice

Based on different criteria and ways of classification, Perceived Justice can be divided into different dimensions in various ways:

(1) Unidimensional division

The basis of the unidimensional division view is the outcome justice, which is derived from

the Equity Theory first proposed by Adams in 1965 focusing on the study of distribution outcome. Generally, early studies on Perceived Justice mainly focus on people's perception of justice of the outcome or resource allocation, that is, the study of "Distributive Justice" (Han et al, 2012).

(2) Two-dimension division

① Distributive Justice and Procedural Justice, represented by McFarlin et al. (1992) and Cropanzano et al. (2001), feature the two typical questions of "to what extent do you think your efforts and rewards are just?" and "does the company evaluate your performance fairly?" respectively.

② Internal justice and external justice is represented by Ren et al. (2011), in which internal justice mainly refers to the Perceived Justice generated by the comparison between employees and other members within the organization, while external justice is to compare with their counterparts outside the organization.

(3) Three-dimension division:

① Individual justice, external justice and internal justice, with representative scholars such as Kuang (2002);

② Distributive Justice, Procedural Justice and leadership justice, represented by Han and Li (2013);

③ Distributive Justice, Procedural Justice and Interactional Justice is represented by Ma (2018). Among which Distributive Justice is the judgment of whether the distribution of compensation is just or not, that is, the result of comparison between the contribution and incomes of the employee and those of others within the organization; Procedural Justice refers to the judgment of employees on the fairness of the formulation process of the enterprise's compensation system, including the establishment process, standards, relevant principles and feedback channels for employees of the system; Interactional Justice refers to whether employees receive fair interpersonal treatment during the implementation of the compensation policy, i.e., the fairness in superiors' attitudes and ways of communication towards different subordinates. Dong and Wang (2020) believe that the dimension of Perceived Justice is derived from the dimension of organizational justice, and the initial single dimension of Distributive Justice has developed into three dimensions: Distributive Justice, Procedural Justice, and Interactional Justice.

(4) Other ways of division:

① Distributive Justice, Procedural Justice, interpersonal justice and information justice

(Colquitt et al., 2001);

② Distributive Justice (degree of match between pay and personal values), Distributive Justice by horizontal comparison (pay compared with other employees in the same position), interpersonal justice (mainly the degree of trust in supervisor's commitment to pay), Procedural Justice (the organization's compensation system and its implementation), information justice (unimpeded channels for expressing objections and feedback on compensation) (Wang & Zhang, 2006);

③ Using relevant indicators of the secondhand data to measure Perceived Justice, represented by scholars such as Wu (2010) and Zhang et al. (2019). No matter how many dimensions Perceived Justice is divided into, it is considered as a subjective judgment of whether employees feel reasonable about the distribution of pay (Leventhal, 1980). The important impact of Perceived Justice on employees' behavior, attitude and performance has been verified in domestic and foreign enterprises (Yu, 2016).

2.1.4 Influencing factors of Perceived Justice

In the study of factors affecting Perceived Justice, Jiang (2007) finds in her research that gender, job position, and working years have an impact on employees' perception of Perceived Justice. Researches by Liu (2002) and Wang (2009) show that factors such as gender, age have different perceptions of Perceived Justice. Zhang (2004) hold in her research that the personality and characteristics of employees have an impact on their perception of organizational justice. The research of Sun et al. (2007) shows that variables of job types and industry variables are factors that affect employees' perception of Perceived Justice. Zhu and Luo (2008) hold that gender, whether the employee is a manager, compensation strategy, and different cultural models have a certain impact on employees' perception of Perceived Justice. A study by Chen et al. (2010) shows that departments, work overload, leadership support, and flexibility in work schedules are all influencing factors of nurses' perception of Perceived Justice. Li's (2010) research shows that the employees' perception of Perceived Justice is influenced by factors such as age, marital status, and professional titles. Ma and Kong (2010) found in their research that job performance, job satisfaction, leadership satisfaction, Organizational Commitment and organizational citizenship behavior are the outcome variables of organizational justice. Research by Zhu and Long (2012) shows that the personality and behavior of the superior, the personality and behavior of the subordinate, as well as the similarity between the superior and the subordinate, all promote the superior to follow the four principles of interaction and justice in

communication, and affect the employee's sense of justice in interaction. Lin et al. (2015) found that age, education, and professional title are the influencing factors of medical staff's perception of Perceived Justice. Yin's (2015) research shows that research on the impact of organizational justice is mainly focused on organizational identity, employee turnover, employee emotional commitment and innovative behavior. A study by Du and Mao (2019) shows that professional titles, educational backgrounds, Turnover Intention, organizational career management are the main influencing factors of nurses' perception of perceptive justice. Zhao and Lin (2019) found that the factors affecting Perceived Justice can be divided into antecedent variables and outcome variables. The antecedent variables are compensation distribution rules of the organization and compensation psychological discount. The justice perception of team compensation distribution brought about by just distribution rules are higher than justice perception brought about by equal distribution rule; the relationship between compensation psychological discount and perceived justice is negative; when employees have relatively lower compensation psychological discounts, there will be a greater perceived justice. The outcome variables include Turnover Intention, satisfaction, performance, and workplace deviant behavior; there is a negative correlation between Perceived Justice and workplace deviant behavior. With a high degree of Perceived Justice, the probability of deviant behavior will be relatively low. The research of Dong and Wang (2020) shows that the factors affecting Perceived Justice include job satisfaction, compensation satisfaction, employee engagement, Organizational Commitment, Turnover Intention, and sense of responsibility.

2.1.5 Measurement of Perceived Justice

Due to differences in the division of dimensions, the measurement methods of Perceived Justice are also different. Moorman and Niehoff (1993) judged and measured employees' perception of justice from five aspects: income level, workload, work arrangement, work rewards and work responsibilities. Colquitt et al. (2001) mainly measured Distributive Justice from the perspective of individual engagement, and divided it into the 4 kinds of proportional relationship between work effort, unit contribution, workload and work responsibility, and work performance, which fits Adams' concept of Perceived Justice to a certain extent. The Distributive Justice scales designed by Moorman (1991), Lamertz (2002) and Luo (2007) also adopted this kind of basic ideas. Wang (2009) studied the structure and status quo of Chinese employees' organizational justice and has designed the organizational justice scale which is based on the scale compiled by Moorman and Niehoff (1993) and the organizational justice scale of Liu and Wang (2002), combining with the actual situation in China. The scale adopted the scoring method of the 5-level Likert scale. The Distributive Justice aspect of the scale

includes justice in work arrangements, compensation, workload, rewards, and work responsibilities; the Procedural Justice includes representativeness, consistency and unbiasedness of decision-making at work; and the Interactional Justice includes the concern, respect showed by leaders to employees in the process of decision-making and communication, and whether clear and sufficient explanations are provided. Hua (2008) believes that the procedural measurement of Perceived Justice has three types: situational stimulation method, direct measurement and indirect measurement: situational stimulation method refers to the use of certain means to present the actual situation through certain experimental methods to stimulate the subjects; the direct measurement method directly asks the subjects to answer whether a certain procedure is just or not; and the indirect measurement method mainly allows the subjects to evaluate the various dimensions of the Procedural Justice. Li (2010) used a Perceived Justice perception scale that includes internal, external and individual justice to measure Perceived Justice. Ma et al. (2013) compiled a measurement tool including 4 dimensions, namely Perceived Justice in distribution results, Perceived Justice in distribution procedures, interpersonal justice and information justice in distribution, as well as 22 items. Zhu and Long (2012) compiled a Perceived Justice measurement scale based on the four principles of respect, propriety, justification and truthfulness. Li et al. (2017) used a mature scale with three dimensions including distributive, procedural and Interactional Justice when exploring the impact of Perceived Justice on creative performance. Ma (2018) divided Perceived Justice into three dimensions: Distributive Justice, Procedural Justice, and Interactional Justice when measuring Perceived Justice. A total of 20 questions are measured, of which 6 questions are about Distributive Justice, 8 about Procedural Justice and 6 about Interactional Justice.

2.2 Research on Work Engagement

2.2.1 Definition and classification of Work Engagement

In different research stages, researchers have put forward different definitions of work engagement. As an important positive trait, work engagement has drawn widespread attention of researchers and practitioners in many fields since it was put forward by Kahn in 1990 (Shuck, 2011). Kahn (1990) proposed work engagement and clarified its three dimensions of physiology, cognition and emotion, believing that personal engagement is greatly affected by three psychological preconditions: the sense of meaning, sense of security and accessibility. Based

on the work engagement proposed by Kahn (1990), May et al. (2004) conducted an empirical study on the three psychological preconditions (security, meaning and accessibility) for the first time (Jeung, 2011). Maslach and Leite (1997) took the opposite factors of the above three factors of job burnout as the three factors of work engagement, that is, the three dimensions of high energy, high involvement, high efficacy were derived from emotional exhaustion, cynicism, low efficacy respectively. Schaufeli et al. (2002) hold that work engagement mainly lies in the dimension of concentration. Shirom (2003) believes that engagement should only focus on vigor, which is the only element that does not cause confusion in the engagement model, while dedication and focus overlap with other factors, and accordingly he put forward the construct of vigor. Sheng (2006) believes that the teacher's work engagement refers to the teacher's proactive attitude and the degree of love and obsession with their own work. Liu and Kong (2010) believe that teacher's work engagement means, in educational organizations, teachers' psychological recognition of their own teaching work and the importance attached to their work performance, and active participation in work. On the whole, the integrated concept of work engagement refers to a kind of emotional experience that includes positiveness and is produced by individuals when facing work (Hu & Wang, 2014).

Xu and Gao (2011) believe that work engagement refers to the degree of the individual's psychological recognition of the current work and the degree of value on work performance, and active participation in work. Luo and Liao (2007) hold that work engagement includes two levels: one is the degree to which an individual is devoted to a particular job and is enthusiastic to participate; the other is the psychological state of an individual that is more agreeable with the current job compared to other jobs. Zhang (2008) developed an Enterprise Employees' Work Engagement Questionnaire that meets the requirements of psychometrics, and used exploratory factors to analyze it, in which it is found that the work engagement of Chinese employees is composed of three dimensions, namely, enthusiasm for work, active participation and work concentration. An et al. (2009) hold that work engagement is simply the internalization of work-related conveniences, or the importance of work to the individual, and the degree of the individual's psychological recognition of the current work. Liu et al. (2013) believe that work engagement is an individual's positive and complete emotional and cognitive state related to work, which reflects the high energy level, concentration and strong sense of recognition at work, and is manifested as such three characteristics, vigor, dedication, and absorption. Chang et al. (2018) believe that work engagement, also called work involvement or dedication, refers to an individual's positive and complete emotional and cognitive state related to work, expressed in three aspects: vitality, dedication, and absorption. Work engagement reflects a high

level of work performance, a strong sense of concentration and identity, and the three states of employees' emotions, behaviors, and cognition. Zhang et al. (2009), He (2011), Yang et al. (2013) and Hu and Wang (2014) believe that work engagement refers to an individual's positive and complete emotional and cognitive state related to work, which is specifically manifested as the simultaneity and holistic existence of the following three aspects: the individual's positive emotional experience at work, sensitive and focused cognition, and highly aroused physical state. Work engagement can improve employee's work satisfaction, work performance, and reduce employee's turnover.

2.2.2 Theoretical model of Work Engagement

According to the research, the theoretical models of work engagement can be mainly divided into 3 categories: expectancy model, motivational model and comprehensive model.

(1) Expectancy model

The expectancy model was proposed by the American Psychologist Vroom in the book *Work and Motivation* in 1964. Vroom (1964) believes that people's motivation towards an activity depends on the total expected value of the result he can obtain multiplied by his expected probability of achieving the result. The basic model of Expectancy Theory can be expressed as $M=V \cdot E$, in which M stands for motivation and refers to the level of motivation and how positive the individual is; V stands for valence, the individual's value attached to the outcome; and E stands for expectancy, or effort-performance probability, refers to the extent to which the person believes his efforts will lead to the achievement of the task (Zhang, 2008).

(2) Motivational model

Kanungo (1982) regards Work Engagement as a state of overall cognition (or belief) of an individual's psychological recognition with work, in which work is regarded to have the potential to satisfy the individual's main needs and expectations. He proposed the motivation theory model based on this. He believes that the internal and external behaviors and attitudes of individuals in work are affected by the Saliency of Need, and the past socialization process (historical reasons) and the environment of satisfying needs (present reasons) determine the significance of the needs of the individual. Therefore, the individual's recognition of work depends on two conditions: the past socialization process and the environment that meets the needs. Specifically, when the current work can meet the needs of the individual, the individual will recognize the work psychologically, and thus devote oneself to the work. Conversely, when the current work cannot meet the needs of the individual, the individual will feel alienated from

the work (Zhang, 2008).

(3) Comprehensive Model

The comprehensive model includes the following contents: first, Work Engagement is a kind of individual difference variable, which does not change with the characteristics of the specific work environment. It is mainly the result of the individual's internalization of traditional work values in the process of socialization; second, it is believed that Work Engagement is more susceptible to the organizational environment, and is a product induced by the individual's work environment, such as work repetition, management behavior (whether employees are fairly treated, the degree of participation in decision-making, the amount of communication); third, it is believed that Work Engagement is the result of the interaction between individuals and their work environment, and is the product of the interaction between the individual's characteristics and work environment. Under this interactional viewpoint, Work Engagement is not only triggered by personal characteristics, but also induced by the work environment. It stresses the interaction between the individual and the environment, and holds that Work Engagement is the result of the mutual influence of the two factors.

2.2.3 Research on influencing factors of Work Engagement

Different scholars have carried out researches on the influencing factors of Work Engagement from different aspects:

A study conducted by Li et al. (2006) with 361 employees in enterprises and institutions as the survey object shows that organizational justice, role pressure, organizational support and Organizational Commitment have a significant overall impact on Work Engagement and the three factors included in Work Engagement. But the ways in which these variables exert their influence are not consistent in different organizations. Role pressure mainly affects Organizational Commitment and then has an indirect impact on Work Engagement: organizational justice and organizational support have no significant direct impact on Work Engagement, but significant indirect effects.

Liu (2007) found that the main antecedent variables of Work Engagement include work characteristics (autonomy, skill diversity, task orientation, importance), management behavior (consideration, participation), and individual differences (intrinsic motivation). Luo and Liao (2007) found that the antecedent variables of Work Engagement can be divided into two categories: personal characteristics and situational characteristics. Personal characteristics variables include personal background variables (such as gender, age, education level, marital

status, working years), and personality trait variables (such as type A personality, internal and external control personality, achievement motivation, work values, high-level demand intensity); situational characteristics include job characteristics and leadership style; job satisfaction, job performance, Turnover Intention, organizational citizenship behavior are the outcome variables of Work Engagement.

Zhang (2008) found in his research that organizational justice and role pressure (antecedent) have a significant impact on work enthusiasm and active participation. All dimensions of Work Engagement, including work enthusiasm, active participation and work concentration, all have a significant positive impact on work performance (outcome).

An et al. (2009) found that the influencing factors of Work Engagement can be divided into two categories. The first refers to individual factors, including gender, age, marital status, educational background, personality traits, religious beliefs, identity in the organization (part-time/full-time), years of work; the other includes situational factors, namely the factors related to the organization, such as Organizational Commitment, organizational support for employees, satisfaction with rewards, job satisfaction, management methods, leadership behavior, organizational atmosphere, communication in the organization, incentive methods, and organizational culture.

Dong (2011) believes that the proactive personality has a significant positive correlation with Work Engagement. He points out that the dimension of concentration in Work Engagement has a direct impact on subjective well-being (SWB) and psychological well-being (PWB), and the dimension of contribution has a significant positive correlation with SWB and PWB. Bledow et al. (2011) believe that positive emotions and moods have a positive impact on the Work Engagement of individuals who are in a negative state in the morning.

Gao et al. (2011) found that the differences in Work Engagement of the medical staff of different genders, different education levels and different hospitals are statistically significant; organizational factors and personality factors, organizational factors and Work Engagement, and personality factors and Work Engagement are all significantly correlated; personality factors can fully intervene in the influence of organizational factors on Work Engagement, and personality characteristics can determine how employees respond to work situations. After controlling burnout, Alarcon and Edwards (2011) believe that there is a significant correlation between Work Engagement and high work intention, and between job satisfaction and low Turnover Intention.

Chen (2013) found in her research that the influencing factors of Work Engagement can be divided into four categories: individual characteristic factors, work-related factors,

organization-related factors, and family-related factors. Individual characteristic factors include mental state, efficacy, identity, personality and temperament; work-related factors include clear performance guidelines, control of individual job performance, and the degree of matching between individual and job. There is a high degree of positive correlation between organizational support and Work Engagement; negative emotions at work significantly reduce the employee's attention to the family, while positive emotions in the family are conducive to improving female employees' concentration at work; for male employees, positive emotions at work increase their attention to the family. Wang et al. (2013) found that differences in the level of Work Engagement of nurses of different personnel status, positions, education backgrounds, and values are statistically significant.

Chang et al. (2013), taking Work Engagement as a moderator when studying the relationship between psychological contract and innovation behavior, found that Work Engagement plays a moderating role in the negative correlation between temporary contract and innovation behavior, as well as in the positive correlation between relationship contract and innovation behavior. When studying the relationship between the psychological atmosphere and organizational citizenship behavior, Kataria et al. (2013) found that Work Engagement plays a moderating role in such relationship.

Cui et al. (2021) hold that there is a positive correlation between ICU nurses' structural authorization, psychological authorization and Work Engagement. The influencing factors of ICU nurses' Work Engagement include work meaning, resources, self-efficacy, work influence and opportunities. Liu et al. (2013) believe that the level of Work Engagement of nursing staff in grade-A tertiary general hospitals is related to many factors such as marital status, nursing years, professional title, and average monthly income, among which nursing years is the main factor affecting nursing care in grade-A tertiary general hospitals. The study by Chang et al. (2018) found that there are statistically significant differences in the total scores of nurses of different ages and nursing years.

2.3 Organizational Commitment

2.3.1 Definition and classification of Organizational Commitment

Organizational Commitment is an important variable to explore the working behavior of employees in an enterprise. As a key topic for various scholars, its connotation and emphasis are constantly changing at different stages.

Becker (1960) believes that Organizational Commitment is a psychological phenomenon that employees have to stay in the organization as their input into the organization increases. It is a psychological contract to promote employees to continue their professional behavior. Kanter (1968) sees Organizational Commitment as a willingness to devote energy and loyalty to the social system, and such an attachment of the individual's personality system to social relationships as self-expressive. Sheldon (1971) believes that Organizational Commitment is the inclination and attitude towards the organization, which binds individuals and the organization together. Hrebiniak and Alutto (1972) believe that Organizational Commitment is a structural phenomenon in which individuals and organizations trade or change in side-bets or investment. Porter et al. (1976) believe that Organizational Commitment refers to the relative intensity of an individual's identification and involvement towards an organization, including (1) the degree of belief in and acceptance towards the organization's goals; (2) the degree of willingness to make additional efforts for the benefit of the organization; (3) the degree of preference for remaining a member of the organization. Steers (1977) believes that Organizational Commitment is an individual's attitude towards work, including the consistency between actual and ideal work, personal identity with the job of their choice, and reluctance to leave the current organization to find another job. Mowday et al. (1979) believes that Organizational Commitment is an individual's attitude towards the organization or a positive inner tendency. It is the individual's emotional attachment to and relative degree of participation in a particular organization. Wiener (1982) believes that Organizational Commitment is the result of a particular idea or norm being constantly instilled and emphasized during the course of individual socialization, it is the individual's internalized normative pressure that makes personal behavior comply with the goals and interests of the organization. Wu (1993) believes that Organizational Commitment is the degree to which organizational members agree and are loyal to the organization. The higher the commitment is, the more the employees see themselves as part of the organization. Ling et al. (2001) hold that Organizational Commitment is an attitude of organizational members towards the organization, which can explain why they

remain in the organization, and it is also an indicator to test the members' loyalty to the organization. Lu (2005) believes that Organizational Commitment is the internalization of corporate goals and values by employees who have a strong sense of identity with the personnel system of the enterprise, as well as high motivation, willingness to stay and dedication to the enterprise. Sun (2010) believes that Organizational Commitment refers to the employee's continued willingness to work in a particular organization, which explains why employees stay in an organization, and also acts as an indicator of employees' Turnover Intention. Liang et al. (2019) believe that Organizational Commitment refers to the basic attitude of employees to the current organization, which can explain why employees are willing to work in the current organization. Tim and Chery (2000), Liu et al. (2012) hold that Organizational Commitment is the individuals' recognition of a particular organization and its objectives. It is the employees' attitude or positive internal tendency to be loyal to and work hard for the organization, and to keep staying in the organization.

2.3.2 Structure and measurement of Organizational Commitment

Scholars in different historical periods have different understandings of Organizational Commitment. The main views on the structure of Organizational Commitment are as follows:

The Side-Bet Theory proposed by Becker (1960) is actually a single factor concept which demonstrates the psychological will of employees to the organization from an economic point of view. Thus, it is a single continued commitment, or a single normative commitment. Buchanan (1974) believes that Organizational Commitment is an emotional experience of employees to the organization, such as identity or loyalty. Salancik and Pfeffer (1977) believe that Organizational Commitment is the employees' behavior of relying on the organization because of a great number of sunk costs invested. Wiener (1982) believes that Organizational Commitment is a process in which employees internalize codes of conduct and moral standards, and thus create a sense of obligation. The employees feel that they are responsible for the organization and should do their duty to the organization and consciously safeguard the organization's interests from infringement.

Hall et al. (1970) divided Organizational Commitment into attitude commitment and behavioral intention commitment. Attitude commitment refers to the employee's personal identity to the organization, the input to their work and the emotional loyalty or attention to the organization, whereas behavioral intention commitment is the employee's willingness to work hard for the organization, and the desire to maintain the identity as an employee in the

organization. Stevens et al. (1978) concluded two types of Organizational Commitment in their study, namely normative commitment and exchange commitment. The former refers to the willingness of individuals to remain in the organization and contribute to the organization, which is a natural moral code rather than a utilitarian balance of interests, while the latter is the idea that employees measure the gap between investment and return, and assess their contribution to the organization and their remuneration from the investment-return perspective. Organizational Commitment will increase when employees think such exchange benefits themselves, and vice versa. Meyer and Allen (1984) believe that Organizational Commitment mainly includes affective commitment and continuance commitment, and compiled the affective commitment scale and the continuance commitment scale. McGee and Ford (1978) consider that Organizational Commitment includes affective commitment and continuance commitment, and developed a scale containing 16 items. Cohen (2007) believes that the actual Organizational Commitment formed by individuals after working in a particular organization contains only two types: affective commitment and instrumental commitment.

Buchanan (1974) believes that Organizational Commitment consists of three components: identity, participation and loyalty, among which identity means the goal and value of the individual being consistent with that of the organization, participation is the mental state of the individual devoted to work, and loyalty is an individual's emotional dependence on the organization. Reichers (1985) divided Organizational Commitment into three categories: side-bets, attributions and goal congruence. Jaros et al. (1993) hold that Organizational Commitment can be divided into continuous commitment, affective commitment and moral commitment. Xin (2019) proposed in her study that Organizational Commitment includes three elements: affective commitment, transaction commitment, and normative commitment.

Blau et al. (2001) divided Organizational Commitment into four dimensions: affective commitment, normative commitment, accumulated cost, and limited alternatives. Swailes (2002) extended Organizational Commitment to the field of behavior and divided Organizational Commitment into four types: affective commitment, continuance commitment, normative commitment, and behavioral commitment. Song and Cai (2005) proposed that the organization commitment of teachers includes four dimensions, namely affective commitment, normative commitment, ideal commitment, and input commitment. Weng and Chen (2009) discussed the origin and development of the theory of Organizational Commitment, and summarized the four bases of its formation, namely, attitude/affective commitment, continuance commitment, normative commitment and behavioral commitment. According to Sun (2010), the Organizational Commitment of migrant workers includes four factors:

environmental commitment, relationship commitment, choice commitment, and economic commitment.

Ling et al. (2000) found that the structural model of Organizational Commitment of Chinese employees contains five factors: affective commitment, normative commitment, ideal commitment, economic commitment, and choice commitment. Yu (1985) believes that there are five levels in Organizational Commitment, from low to high, utilitarian commitment, participatory commitment, kinship commitment, goal commitment, and spiritual commitment. Tan et al. (2002) took the employees of enterprises in the Pearl River Delta and Changsha as the research objects to verify the five-factor model of Chinese workers: affective commitment, ideal commitment, normative commitment, economic commitment, and choice commitment. Ma (2006) and Liu (2009) believe that the Organizational Commitment structure of college teachers consists of six factors: affective commitment, ideal commitment, relationship commitment, conditional commitment, continuance commitment and responsibility commitment.

2.3.3 Influencing factors of Organizational Commitment

Various scholars have studied the influencing factors of Organizational Commitment:

Ling et al. (2001) found that there is no significant difference between men and women in affective commitment, normative commitment, and economic commitment. Also, there is no significant difference among people of different ages in normative commitment, ideal commitment, and economic commitment, but there is a difference in affective commitment and choice commitment. Besides, employees with different lengths of service time show significant difference in affective commitment and economic commitment, but no significant difference in ideal commitment, normative commitment and choice commitment. Moreover, employees with different education levels do not show significant difference in affective commitment, normative commitment and economic commitment, yet they do in ideal commitment and choice commitment. In terms of different positions, normative commitment and economic commitment do not vary significantly, but affective commitment, ideal commitment and choice commitment do. Finally, organizational support, trust in leadership, satisfaction are the organizational factors that affect Organizational Commitment, and have different effects on Organizational Commitment in different dimensions.

Liu (2002) found that the influencing factors of affective commitment include, according to their importance, corporate development prospect, comparison of present situation and

expectation, post identity, personal development prospect, interpersonal relationship, comparison of present situation and alternative choice, welfare and treatment, and pressure of public opinion. The influencing factors of continuance commitment include corporate development prospect, comparison of present situation and expectation, personal development prospect, comparison of present situation and alternative choice, and interpersonal relationship. The influencing factors of normative commitment are comparison of present situation and expectation, pressure of public opinion, comparison of present situation and alternative choice, and corporate development prospect.

Ma (2006) found that age, marital status, professional title, and teaching years are the influencing factors of Organizational Commitment of college and university teachers. Zhu (2007) proposed that the factors affecting affective commitment are hospital ownership, hospital grade, professional title, nursing years, and age. The factors affecting ideal commitment are hospital grade and hospital ownership. The factors affecting economic commitment are employment method, age, hospital grade, nursing years, professional title and income. The factors affecting choice commitment are employment method, nursing years, hospital grade, age, and education background. The factors affecting overall Organizational Commitment are hospital ownership, hospital grade, employment method, nursing years, and education background.

Pan and Xuan (2007) found that nurses' turnover, absenteeism, work attitude and performance are the outcome variables of Organizational Commitment.

Li and Li (2010) found that marriage, primary educational qualification, place of household registration, employment method, professional title, monthly salary, and working years all have a significant impact on nurses' organizations commitment. Sun (2010) found that men's environmental commitment is lower than that of women, while male's economic commitment is higher than that of female. Migrant workers in different age groups have significant differences in environmental commitment and relationship commitment. Migrant workers with different working years have significant differences in economic commitment. Migrant workers with different incomes have significant differences in environmental commitment, affective commitment and economic commitment. Migrant workers with different educational qualifications have significant differences in environmental commitment.

Wang (2012) found that age is positively correlated with affective commitment, continuance commitment and overall Organizational Commitment, that is, the higher the age, the higher the level of commitment. In terms of academic qualification, there are slight differences in affective commitment, normative commitment and continuance commitment, but

significant differences in overall Organizational Commitment. The organization's nature has the most significant impact on affective commitment, normative commitment, continuance commitment and overall Organizational Commitment. The impact of the organization's scale on affective commitment, normative commitment and continuance commitment is also significant, but it is not on overall Organizational Commitment.

Xu (2009) discovered that there are three main antecedent variables of Organizational Commitment: individual factors, work-related factors and organizational factors. Individual factors mainly refer to demographic variables. Work-related factors are mainly job challenges, job clarity, skills required for work, and workplace. Organizational factors refer to organizational support, organizational justice, organizational trust, organizational atmosphere and organizational culture.

Xia and Li (2014) found in their study that the factors affecting Organizational Commitment can be divided into demographic factors, work experience, organizational atmosphere and culture, and transformational leadership behavior.

Xin (2019) found significant differences show among teachers of different genders, identities, and ages in terms of Organizational Commitment.

Liang et al. (2019) found that the factors affecting nurses' Organizational Commitment can be divided into three categories: individual factors, work-related factors, and organizational factors. Individual factors include professional title, seniority, primary educational qualification, birthplace, marriage, ability to effectively manage one's own emotion and economic condition. Work-related factors include not only job autonomy, professional skills, but also the departments, posts, as well as the welfare and treatment in the departments. Organizational factors mainly include the organization's scale and structure, organizational support and trust, organizational atmosphere and management staff. Wang (2020) found that the Organizational Commitment scores of nurses in the operating room of different ages and with different professional titles and employment methods are different with statistical significance.

2.4 Turnover Intention

2.4.1 Definition of Turnover Intention

Turnover generally refers to the idea, psychological state, possibility, or behavior tendency that an employee wants to leave his/her job. In terms of turnover intention, different scholars have put forward their own definitions in different studies:

Mobley (1977) and Mobley et al. (1978) believe that turnover intention is a thought and idea caused by comprehensive factors such as job dissatisfaction. Runny (2006) and Staufenbiel and Konig (2010) believe that turnover intention is an antecedent variable and psychological state that can predict turnover behavior. Yang et al. (2019) understood turnover intention as a kind of psychological activity before leaving jobs, which is affected by work pressure and other factors. Takase (2010) defined turnover intention as the possibility of turnover, which can predict the actual turnover behavior of employees. Studies from Li et al. (2007) and Yang (2013) believe that individual turnover intention can be divided into active turnover and passive turnover. The emergence of the two's turnover intention and its significance to the organization are different. Liang (2005) and Ding (2013) believe that turnover intention refers to the idea or behavioral tendency of individuals to change their jobs or to leave their current positions or work units. Cao et al. (2005), Zhang et al. (2007), and Xu et al. (2011) believe that the tendency of employees to leave the current organization and current position is the turnover intention. Zhou et al. (2015) and Zeng (2019) believe that turnover willingness is a psychological tendency related to turnover, which greatly affects whether employees will have turnover behavior. Zhang et al. (2020) used turnover willingness to equate turnover intention, arguing that it is a choice produced by employees' voluntary turnover. Chen et al. (2021) believe that turnover intention includes two aspects: one is wanting to resign, and the other is wanting to find a new job. Ma and Han (2021) and Hou et al. (2021) defined turnover intention as the possibility of voluntary turnover, which is the probability that this possibility will occur in the future.

2.4.2 Influencing factors of Turnover Intention

Different scholars have conducted exploratory research on the influencing factors of turnover intention. In general, the influencing factors of turnover intention can be divided into four aspects: individual factors, organizational factors, work-related factors, and other factors.

2.4.2.1 Organizational factors

Wang et al. (2001) believe that the scale of the organization, the internal and external environment of the organization, the division of labor and management within the organization are all important factors that affect the rate of employee turnover. Zhang et al. (2003) and Wang et al. (2010) believe that factors affecting turnover intention include organizational career growth, job promotion opportunities, and work monotony. Li et al. (2006) found that empowerment has a negative impact on turnover intention and that organizations with a low

degree of empowerment have a higher turnover intention. The research results of Li et al. (2007) showed that organizational justice affects turnover intention. Zhang (2007) found that the nature of the enterprise affects employees' turnover intention. Xu et al. (2011), Cao et al. (2018), and Zhang et al. (2021) showed that the organization's welfare system is an important factor affecting turnover intention, including the organization's compensation and benefits, training, self-improvement, holidays and others. The research of Deng et al. (2008) and Lai (2019) showed that work environment and work pressure are influencing factors of turnover intention. Shao (2014) and Gu et al. (2017) believe that the organization's leadership member exchange, supervisor support, and organizational support indirectly affect employees' willingness to leave his/her job. Wang et al. (2011) and Zhou et al. (2015) believe that hospital grade is also an important factor affecting the turnover intention of medical staff from the emergency department. Zeng et al. (2015) and Lin et al. (2021) believe that organizational culture is an important factor affecting turnover intention. Cheng et al. (2017) found that factors such as endowment insurance and medical insurance have different effects on employees' turnover intention. The research of Li et al. (2021) showed that salary satisfaction has an impact on turnover intention, and its impact on different employee subgroups is different. Gao et al (2021) found that important predictors of turnover intention include hospital type and job flexibility. The research by Kavakli and Yildirim (2022) found that workplace incivility is one of the influencing factors of turnover intention. Gong et al. (2022) found that organizational factors such as organizational climate have an important impact on turnover intention. Lee (2022) found that factors such as organizational staffing are also influencing factors of turnover intention.

2.4.2.2 Work-related factors

Zhao et al. (2003), Li et al. (2007), and Chang et al. (2016) believe that employees' job satisfaction is closely related to turnover intention. The research of Li et al. (2006) showed that the meaning of work has a significant influence factor on turnover intention. Yuan and Lu. (2011), Shu et al. (2012), and Liu et al. (2017) found that organizational commitment is a factor that affects employees' turnover intention. The research results of Li (2014) and Yang et al. (2015) showed that job burnout is an important factor affecting the turnover intention of medical staff in tertiary hospitals and primary hospitals, and that there is a positive impact between them. Zhang's (2016) study showed that busy work status and job burnout level were the factors that affected the turnover intention of non-staff nurses, and that they have a reverse influence relationship. Yu et al. (2016) found that both positive and negative emotions about work affect

employees' turnover intention, and that there are different paths of influence. Wang et al. (2016) conducted a study on front-line employees in the manufacturing industry and found that the job requirements of front-line employees in the manufacturing industry have a positive impact on their turnover intention. Ye (2017) found in a study of community medical staff that the type of work affects their turnover intention. The research of Scanlan et al. (2019) showed that factors related to turnover intention include job control, feedback, participation, and other job resources. The study of Zhang et al. (2020) showed that job involvement has an impact on turnover intention, and that the impact is reverse. Ma and Han (2021) researched on rural grassroots medical staff and found that factors such as work intensity and the imbalance of effort and response affect turnover intention. The research results of Feng et al. (2021) showed that factors such as working medical care affect the willingness of general practitioners to leave his/her job. Gong et al. (2022) found that workload is also one of the factors affecting employees' turnover intention.

2.4.2.3 Individual factors

Fu et al. (2002) found that individual factors are an important factor affecting turnover intention. Han and Liao (2007) found that there are many factors that affect employee turnover, including age, years of service, educational background, gender and other variables. Li et al. (2007) found that age, tenure and income level, education level, job nature, gender and other factors are all important factors that affect employees' turnover intention. Zhang (2007) believes that employees' own individual characteristics and family factors are important factors that affect employees' turnover intention. Yuan and Lu (2011) studied obstetric nurses in various hospitals and found that the factors that affect turnover intention include staffing, professional title, organizational commitment, role conflict, expectation matching, and role ambiguity. Xu et al. (2011) found that factors such as marital status are also the factors that affect turnover intention. Wang et al. (2015) found that the factors affecting the turnover intention of nursing staff include age group, marital status, working years, professional title, and employment form, and that the influence results of the different factors vary somewhat. Zhou (2012) and Yan et al. (2015) showed that factors affecting turnover intention include the role pressure of medical staff, which has a positive impact on turnover intention of medical staff. Wu et al. (2017) found that factors such as different professional title levels and professional title sequences are important factors affecting the turnover rate of medical staff. Ye (2017) found that among community medical staff, the factors that affect their willingness to leave their jobs include gender, position, job type, and income level. The research of Li et al. (2018) and Lee (2022) showed that the factors

affecting turnover intention include emotional commitment and organizational commitment. Cao et al. (2018) found that the factors affecting the turnover willingness of grassroots doctors include age, education, professional title, and work nature, and that the factors that have little influence on the turnover willingness of grassroots doctors are gender, grassroots working time, and marital status. Lai (2019) found that age, length of service, education and gender, marital status, and personality characteristics are all factors that affect preschool teachers' turnover intention. Zhao et al. (2020) found that income level and living environment affect employees' willingness to leave their jobs to varying degrees. Meng et al. (2020) found that work values are an important factor affecting and predicting employees' turnover intention, and that different work values have different effects on employees' turnover intention. The study by Cao et al. (2021) showed that important factors affecting turnover intention include employee empathy, job engagement, and others. Shi et al. (2021) took nurses as research objects and found that nurses' respect for practitioners is an important factor affecting their willingness to leave their jobs. Hou et al. (2021) found that the psychosocial syndrome of medical staff is also an influencing factor of turnover intention and has a positive impact on turnover intention. Feng et al. (2022) found in a study of emergency physicians that factors such as gender, average monthly income, and depression tendency all have an impact on turnover intention.

2.4.2.4 Other factors

Wayne et al. (1997) found that the cycle of the labor market has an impact on employees' turnover rate. Williams (1999) found that the factors affecting employees' turnover rate include unemployment rate and others. Zhang (2007) found that factors such as employment opportunities are important factors affecting turnover intention. Dong et al. (2013) and Hou et al. (2021) found that the doctor-patient relationship is an important factor affecting doctors' turnover intention. Shi et al. (2013) found that social relations are one of the important factors affecting the turnover willingness of college students as "village officials". Zhou et al. (2015), Chen et al. (2021), and Gong et al. (2022) found that the level of social support is an important factor affecting turnover intention. The research of Zhang et al. (2021) showed that the factors affecting the willingness to leave include medical disputes.

2.4.3 Turnover models

When studying voluntary turnover, scholars from outside China put forward many turnover models and used them to explain the Turnover Intention or behavior of employees. Referring to the studies of Nan (2011), Tao (2018) and Wu (2020), the following models are concluded:

(1) Price turnover model. Price turnover model is composed of antecedent variables, intermediate variables and outcome variables, and it represents the mainstream turnover models. Price model contains influencing factors with a causal relationship: the antecedent variables include five factors: salary, performance, integration, concentration and formal communication; intermediate variables are job satisfaction and job opportunity; and the outcome variable is turnover. In the Price turnover model, the antecedent variables first affect job satisfaction, and then affect employee turnover behavior with the change of external opportunities. Among the antecedent variables, only concentration and job satisfaction are negatively correlated, and there is a positive correlation between salary, integration, performance feedback, formal communication variables and job satisfaction. After many empirical revisions, the Price turnover model has been eventually improved into the Price & Mueller turnover model, which has four kinds of turnover-related variables, namely, environmental variables, individual variables, structural variables, and process variables. Among them, environmental variables include kinship responsibilities and opportunities, individual variables include general training and job participation, process variables include job satisfaction and Organizational Commitment, and structural variables include such variables as communication, training and education, compensation, distributional justice, promotion, job autonomy, job stress and social support. An empirical study of the Price & Mueller turnover model shows that environmental variables and individual variables have a direct impact on turnover behavior, while job satisfaction and Organizational Commitment play an intermediary role in the structural variables' impact on Turnover Intention. The Price-Mueller model is a relatively holistic research framework, which facilitates scholars to analyze the psychological change process of employee turnover from many angles, and it is also considered as a turnover model with a great influence on modern research (Price, 2001).

(2) Mobley turnover model. Mobley (1977) believes that there is a correlation between employee's job satisfaction and turnover. When employees are dissatisfied with their work, they will treat their work with a negative attitude, which may lead to the idea of leaving. If the expected return of finding another job is greater than the loss, the behavior of turnover is very likely to occur. Mobley revised the turnover model in 1978, and proposed that employee Turnover Intention is the antecedent factor of employee turnover behavior; in the revised model, job satisfaction varies significantly in terms of age and seniority, while the degree of job satisfaction has a significant negative correlation with Turnover Intention and turnover behavior.

(3) Mobley intermediary chain model. Mobley and other scholars put forward a more perfect intermediary chain model in 1979 after integrating the previous research results. The

model points out that employee turnover is not an impulsive behavior, but a long gradual process that after considering such main factors as job satisfaction, expectation of changing job roles and benefits inside and outside the organization and non-work values, employees have the idea of leaving the organization and finally put it into action. This model actually describes a psychological process, which is exactly what its value lies in (Mobley et al., 1979).

(4) Steers & Mowday turnover model. Based on previous studies, Steers and Mowday (1981) constructed a new turnover model. They believe that whether employees will eventually leave the organization is mainly influenced by four factors: employees' job expectation and work value, their attitude at work, their wish to leave the organization and other accidental factors, and the interaction between these four factors is no longer a simple chain relationship. In addition, individual differences also affect an employee's final decision to leave the organization. This turnover model holds that the interaction between job expectation and value, organizational characteristics and experience, and job performance has a direct impact on both turnover behavior and subjective attitude. And subjective attitude further affects turnover behavior. The characteristics of the model are as follows: first, it not only points out that the Turnover Intention is influenced by the subjective attitude of employees, but also emphasizes the influence of some non-work factors (spouse's work, time for caring the family); second, this model breaks through the assumption that there is only one path from subjective attitude to Turnover Intention in the employee turnover model, and the model contains not only the interaction among various variables but also a feedback path. This model clarifies the impact of employees' subjective attitude on Turnover Intention. At the same time, it also explains the influence of organizational environment and individual characteristics on employee Turnover Intention, thus providing new ideas for further research (Steers et al., 1981).

(5) March & Simon participant determination model. March and Simon (1958). put forward a participant determination model in their classic research in 1958. The model consists of two sub-models: one analyzes the employees' perceived rationality of leaving the enterprise, that is, employee's willingness to leave; the other probes into the employees' perceived difficulty of leaving the enterprise, that is, the difficulty of turnover. As the first model to integrate labor market and individual behavior to investigate employee turnover process, this model has a pioneering significance and lays a solid foundation for further research.

(6) Other turnover models. Based on the Nonlinear Catastrophe Theory, Sheridan and Abelson (1983) proposed a Cusp-catastrophe model, in which the change process of employees' voluntary turnover is explained from the viewpoint of Nonlinear Catastrophe Theory. Based on the Beach Image Theory, for the first time, the decision-making theoretical model proposed by

Lee and Mitchell (1994) clearly pointed out that there may be many paths to turnover, and some turnover behaviors may not be related to job satisfaction since they are caused by “system shock”.

Allen and Griffeth proposed a multipath model of the relationship between individual performance and turnover, which holds that “the shock brought by performance can directly lead to the occurrence of turnover behavior” (Sheridan & Abelson, 1983).

In the turnover model proposed by Maertz et al. (2003), the voluntary turnover behavior of employees is stimulated by various internal and external factors. Voluntary turnover behavior of employees is affected by multiple factors including conflict with leaders and colleagues, family responsibilities, affection towards organizations, superiors and colleagues, and the organizational environment for turnover.

Hom and Griffeth established the motivation model in 1991 based on the Hulin’s (1991) Withdrawal Cognitive Theory and the Mobley (1979) Model, and hold that work attitude variables can affect withdrawal cognition, which in turn leads to different withdrawal behaviors such as demotivation, absenteeism and turnover. Lee and Mitchell (1994), based on the Image Theory, built the unfolding model of employee turnover, holding that there are a number of ways leading to employee turnover, and it identifies four different turnover paths. At the same time, some scholars explored collective turnover and gradually developed some theories and models, such as the snowball effect of turnover (Krackhardt & Porter, 1986), the contagion effect of turnover (Felps et al., 2009), the process model of collective turnover (Bartunek et al., 2008) and the Context-Emergent Turnover Theory (Nyberg & Ployhart, 2013).

2.5 Research on relations among Perceived Justice, Organizational Commitment, Work Engagement and Turnover Intention

2.5.1 Research on the relation between Perceived Justice and Organizational Commitment

The dimensions of Perceived Justice include Distributive Justice, Procedural Justice, interpersonal justice and information justice. Studies have shown that different dimensions of Perceived Justice are correlated with Organizational Commitment. Research by Chen and Wu (2006) shows that employees’ perception of organizational justice can influence their Organizational Commitment. Moreover, there is also a mutual moderating effect among Distributive Justice, Procedural Justice, and Interactional Justice, and such effect is particularly evident between Procedural Justice and Distributive Justice. Research by Jiang (2007) shows

that Distributive Justice and Procedural Justice have a significant impact on Organizational Commitment through the sense of organizational support. Research by Li and Zhang (2008) shows that Perceived Justice has a positive impact on Organizational Commitment. Research by Liu et al. (2008) shows that Interactional Justice has a positive effect on both dimensions of Organizational Commitment, and Distributive Justice has a significant positive correlation with affective commitment. The research of Xiao (2009) shows that the Distributive Justice in Perceived Justice has good explanatory power to the employees' continuous commitment, and the Procedural Justice has a significant influence and good predictive power to the employees' normative commitment and work involvement. Research by Fu et al. (2010) shows that Distributive Justice, Procedural Justice, Interactional Justice and Organizational Commitment have significant positive correlation. Among them, Distributive Justice has the strongest correlation with Organizational Commitment. Research by Chen et al. (2010) shows that Procedural Justice, information justice and Distributive Justice have predictive effects on career commitment, and organizational justice has a positive impact on career commitment. Li's (2013) research shows that Perceived Justice is significantly related to Organizational Commitment, and Distributive Justice has a stronger influence on Organizational Commitment than Procedural Justice. Tian's (2014) research shows that both Distributive Justice and Interactional Justice have obvious positive impact on Organizational Commitment, and Procedural Justice has the most significant impact on continuous commitment. Research by Wei (2017) shows that organizational justice (Distributive Justice, Procedural Justice, interpersonal justice and information justice) has a positive impact on Organizational Commitment. Research by Zheng et al. (2018) shows that Procedural Justice has a stronger impact on Organizational Commitment than Distributive Justice. Research by Jang, Lee, and Kwon (2019) shows that Distributive Justice and Procedural Justice influence Organizational Commitment. Research by Ministries et al. (2019) shows that the relationship between the three dimensions of organizational justice (information justice, interpersonal justice and Distributive Justice) and work commitment is statistically significant. Information justice has the greatest impact on employees' work commitment, while Procedural Justice has the least. Li et al. (2019) conducted a study on 442 researchers from public colleges and universities in the east, middle and west of the Chinese mainland. It is found that Organizational Commitment can enhance members' perception of justice in organizational allocation, procedures and interactions.

2.5.2 Research on the relation between Perceived Justice and Work Engagement

The research of Tian (2012) shows that Distributive Justice and Procedural Justice are positively correlated with employees' Work Engagement. The higher the employees' perception of justice, the more engaged they are in work, and the greater the degree of performance devoted to the work. The research of Liu et al. (2014) shows that nurses' organizational justice (Perceived Justice, Procedural Justice and information justice) is positively correlated with all dimensions of Work Engagement, and organizational justice has a direct effect on Work Engagement. Research by Li and Li (2019) shows that the poorer the Distributive Justice of nurses, the lower the degree of their Work Engagement. Research by Duan et al. (2016) shows that, there is a positive correlation between organizational justice (Distributive Justice, Procedural Justice and Interactional Justice) and Work Engagement. Research by Xu et al. (2016) shows that organizational justice (Distributive Justice, Procedural Justice, information justice and leadership Justice) has a positive impact on nurses' Work Engagement. Research by Li and Wu (2016) shows that employees' perception of Procedural Justice has a positive impact on their Work Engagement. Research by Wang and Li (2017) shows that the perceived organizational justice (Procedural Justice, Distributive Justice, interpersonal justice and information justice) of nurses is positively correlated with Work Engagement. The greater the degree of injustice that nurses feel in the organization, the lower their degree of Work Engagement. A study by Wan et al. (2018) shows that nurses' organizational justice (Procedural Justice, Distributive Justice, leadership justice and information justice) has a positive impact on their Work Engagement. The research of Wan et al. (2018) shows that organizational justice is significantly related to Work Engagement. Among the dimensions of organizational justice, Distributive Justice and information justice are closely related to Work Engagement. Ma (2019) found that there is a significant positive correlation between preschool teachers' sense of Organizational Justice and their Work Engagement and preschool teachers' sense of Organizational Justice has a significant positive predictive effect on their Work Engagement. Job satisfaction plays a complete intermediary role in the relationship between preschool teachers' sense of Organizational Justice and Work Engagement. Research by Wu and Li (2020) shows that Interactional Justice has a significant positive impact on Work Engagement. Research by Wu (2020) shows that there is a significant positive correlation between Procedural Justice and Work Engagement.

Huang et al. (2019) found that organizational justice is positively correlated with Work Engagement, which is an important factor affecting nurses' Work Engagement. The more organizational justice the nurses perceive, the more their Work Engagement is. Based on the relevant literature, Wu and Li (2020) analyzed the influence of organizational justice on the

Work Engagement from three aspects (Distributive Justice, Procedural Justice and Interactional Justice), which shows that Distributive Justice determines the staff's willingness and their engagement towards the work. When employees' inner demand of justice is valued by the organization, they will be more willing to work. Procedural Justice can motivate employees to repay the organization with higher affective commitment, that is, employees will increase their sense of identity with the organization, consciously strengthen their collective consciousness and team spirit, take organizational goals as the direction of striving, and increase their Work Engagement. If an organization has a surplus of resources and actively supports the work of the staff, it will enable its employees to form a high emotional attachment to the organization, voluntarily advance and retreat with the organization, actively maintain the image of the hospital, and consciously increase their Work Engagement. Wu (2020) conducted an investigation on the nurses from three primary hospitals in Tangshan. It is found that the nurses' Work Engagement is positively correlated with Procedural Justice, Information Justice and Distributive Justice in organizational justice. The Work Engagement of the nurses in primary hospitals is positively correlated with ideal commitment, normative commitment, affective commitment and choice commitment. Organizational Justice and Organizational Commitment are the predictors of nurses' Work Engagement in primary hospitals, and they have positive effects on nurses' Work Engagement. The research by Shi, Li, and Liang (2021) showed that the sense of Organizational Justice of primary medical staff is positively correlated with the four dimensions of psychological capital and the three dimensions of Work Engagement (vitality, dedication and concentration). Organizational Justice is an important factor influencing the Work Engagement of primary medical staff, and the psychological capital of the primary medical staff plays an intermediary role between Organizational Justice and Work Engagement.

2.5.3 Research on the relation between Perceived Justice and Turnover Intention

The research of Xia et al. (2006) shows that the Distributive Justice has a great influence and a strong predictive effect on the Turnover Intention. Research by Jiang (2007) shows that Distributive Justice and Procedural Justice have obvious impact on Turnover Intention through perceived organizational support. Research by He et al. (2007) shows that salary can greatly affect the Turnover Intention of medical staff, as shown in the fact that the higher the expectation of salary is, or the less satisfied they are with the current salary, the stronger the Turnover Intention will be. The research of Li and Zhang (2008) shows that in the Perceived

Justice, Distributive Justice has the strongest predictive power on the Turnover Intention of knowledge-based workers. Research by Ma and Kong (2010) shows that the four dimensions of organizational justice (Distributive Justice, Procedural Justice, information justice and interpersonal justice) all have a significant negative impact on Turnover Intention. A study by Ma et al. (2014) shows that the dimensions of organizational justice (Procedural Justice, Distributive Justice and leadership justice) have a significantly negative correlation with Turnover Intention, and leadership justice has the strongest predictive power on Turnover Intention. Research by Han (2016) shows that Interactional Justice, Procedural Justice and Distributive Justice have obvious negative impact on Turnover Intention of new generation employees. Research by Yu et al. (2016) shows that Perceived Justice is negatively correlated with Turnover Intention. The study of Zheng et al. (2018) shows that organizational justice has a significant negative correlation with Turnover Intention, among which Distributive Justice has a more noticeable negative impact on Turnover Intention than Procedural Justice. Research by Yu et al. (2018) shows that Distributive Justice and Procedural Justice have a strong negative impact on Turnover Intention. A study by Wan and Qiao (2019) shows that there is a significant negative correlation between Perceived Justice and the turnover rate of executives, that is, the higher the Perceived Justice, the lower the turnover rate of executives. Research by Wu and Li (2020) shows that Interactional Justice has a significant negative impact on Turnover Intention. Wu's (2020) research shows that there is a prominent negative correlation between Interactional Justice and Distributive Justice and Turnover Intention.

Shi (2005) found that the impact of the sense of justice on Turnover Intention includes two aspects: on the one hand, the sense of justice has a direct negative impact on Turnover Intention; on the other hand, the sense of justice has an indirect negative effect on Turnover Intention through job satisfaction, and the indirect effect is greater than the direct one. The research by Qiao (2010) shows that interpersonal justice and information justice, just like Distributive Justice and Procedural Justice, are the two important components of the structure of R & D workers' sense of justice, and Organizational Justice is positively correlated with Turnover Intention. Jiang (2008) found that only Procedural Justice and Distributive Justice have a significant effect on Turnover Intention, while interpersonal justice and information justice have no significant effect on Turnover Intention, and the Organizational Justice of employees has significant influence on Turnover Intention through Organizational Commitment as an intermediary variable. Huang, Li, and Wan (2019) found that Organizational Justice has an indirect effect on Turnover Intention which is mediated by organizational support.

Li et al. (2011) found that Procedural Justice and Distributive Justice play a moderating

role between occupational risk and Turnover Intention, and the intensity of adjustment is different. Shi et al. (2015) found that Distributive Justice negatively affects employees' relative deprivation and Turnover Intention; relative deprivation positively affects Turnover Intention and plays a partially mediating role in the effect of Distributive Justice on Turnover Intention. Wang et al. (2017) found that the atmosphere of Organizational Justice is negatively correlated with individual Turnover Intention and collective Turnover Intention; the atmosphere of Organizational Justice influences employees' Turnover Intention entirely through organizational cohesion.

Wang and Zhang (2006) investigated the employees of a well-known international communication equipment manufacturing company and found that Procedural Justice has a negative main effect on Turnover Intention; a high sense of Procedural Justice helps to reduce the positive impact of universal training and Turnover Intention. Chen and Shi (2010) investigated six state-owned enterprises in Beijing and found that the impact of Distributive Justice on Turnover Intention includes two parts: on the one hand, Distributive Justice has a direct negative impact on Turnover Intention; on the other hand, Distributive Justice has indirect negative influence on Turnover Intention partly through moral commitment, and the indirect impact is greater than the direct. Distributive Justice also has indirect influence on Turnover Intention partly through utilitarian commitment, and the indirect effect is less than the direct effect. Zheng et al. (2017) found that Procedural Justice, Distributive Justice and leadership justice have significant negative effects on Turnover Intention of the new generations of the employees in retail enterprises; the influence of each dimension on the Turnover Intention of the new generations of the employees in retail enterprises is obviously different, and the order from strong to weak is Procedural Justice, Distributive Justice and leadership justice. Ye et al. (2018) conducted an investigation on the preschool teachers in rural areas and found that Organizational Justice has a significant effect on the Turnover Intention of rural preschool teachers, and their Turnover Intention can be directly or indirectly affected through the pay satisfaction. Li et al. (2019) investigated 442 researchers from the public colleges and universities in the east, middle and west of the Chinese mainland and they found that Interactional Justice significantly reduces the Turnover Intention of the researchers; Organizational Commitment plays a moderating role in the interaction among organizational political perception, Organizational Justice and Turnover Intention.

2.5.4 Research on the relation between Organizational Commitment and Turnover Intention

Research by Zhang (2007) shows that the three dimensions of Organizational Commitment are significantly negatively correlated with Turnover Intention. Among them, continuous commitment has the highest degree of negative correlation with Turnover Intention, and normative commitment has the lowest degree. Research by He et al. (2007) shows that Turnover Intention plays an important negative role in Organizational Commitment. Jiang's (2007) research shows that organizational support is the most direct factor influencing Turnover Intention. Jiang (2008) found that Organizational Commitment is negatively correlated with Turnover Intention and has a significant impact on Turnover Intention; Organizational Commitment has a significant effect on Turnover Intention as a whole, and the effect of affective commitment and continuous commitment are significant; Organizational Justice has a significant impact on Turnover Intention through Organizational Commitment as an intermediary variable. The research of Meng et al. (2012) shows that Turnover Intention is negatively correlated with all the elements of Organizational Commitment, among which affective commitment has the greatest influence on Turnover Intention. Research by Lu and Sun (2013) shows that Organizational Commitment and its five dimensions are negatively correlated with Turnover Intention. Research by Yang (2013) shows that there is an obvious negative correlation between Organizational Commitment and Turnover Intention, and Organizational Commitment has a significant predictive power on Turnover Intention. Research by Liu and Quan (2016) shows that the higher the Organizational Commitment, job satisfaction and self-expectation are, and the more stable the position is, the lower the Turnover Intention will be. The research of Zheng et al. (2018) shows that Organizational Commitment has a significant negative correlation with Turnover Intention, and continuous commitment has stronger negative influence on Turnover Intention than affective commitment.

Chen and Shi (2010) investigated six state-owned enterprises in Beijing and found that Organizational Commitment has a significant negative impact on Turnover Intention. A study by Wang et al. (2010) showed that the total score of Organizational Commitment and the scores of all dimensions are negatively correlated with Turnover Intention. The research by Qiu et al. (2017) showed that Organizational Commitment of clinical nurses is negatively correlated with Turnover Intention, and there is a linear relationship between them. Liu et al. (2017) conducted a research on the nurses from the secondary hospitals in Beijing, which showed that Organizational Commitment is one of the most important factors affecting the Turnover Intention of these nurses. The higher the degree of Organizational Commitment is, the lower the Turnover Intention of the nurses will be. Chen's (2019) research shows that the Turnover Intention and Organizational Commitment of civil servants at the grass-roots level have a strong

negative correlation. A study of psychiatric nurses in a grade-A tertiary hospital in Beijing made by Hou (2019) shows that Organizational Commitment and Turnover Intention are negatively correlated, and overall Organizational Commitment and social commitment are important factors influencing overall Turnover Intention. Research by Zou et al. (2020) shows that there is a correlation among the four variables of nurses, namely psychological capital, Organizational Commitment, professional identity and Turnover Intention. Li et al. (2019) conducted a study on 442 researchers from public colleges and universities in the east, middle and west of the Chinese mainland. It is found that Organizational Commitment significantly reduces the Turnover Intention of these researchers; Organizational Commitment plays a regulatory role in the interaction among organizational political perception, Organizational Justice and Turnover Intention.

2.5.5 Research on the relation between Work Engagement and Turnover Intention

The study of Nan (2011) shows that among the elements of employees' Work Engagement, only dedication has a significant negative impact on Turnover Intention, while vitality and concentration have no significant effect. The research of Zheng et al. (2016) shows that Work Engagement is negatively correlated with Turnover Intention, and job involvement partially mediates the relationship between Work Engagement and Turnover Intention. Research by Caesens et al. (2016) shows that there is a linear negative correlation between Work Engagement and Turnover Intention, and the relationship between them is curvilinear. At a certain level of Work Engagement, additional Work Engagement will not achieve desirable additional results. Research by Yang et al. (2017) shows that the Work Engagement and its dimensions of medical staff are negatively correlated with Turnover Intention. Research by Yang et al. (2019) shows that there is a causal relationship between Work Engagement and Turnover Intention, and Work Engagement is a stronger negative predictor of employees' Turnover Intention. Research by He and Liu (2019) shows that nurses' Work Engagement and its dimensions are negatively correlated with Turnover Intention, and Work Engagement has a significant direct impact on nurses' Turnover Intention. The research by Huang, Li, and Wan (2019) showed that Work Engagement has a direct negative impact on Turnover Intention, while Organizational Justice has an indirect effect on organizational support-mediated Turnover Intention. Research by Wu and Li (2020) shows that Work Engagement has a significant negative impact on Turnover Intention. Research of Wu and Li (2020) shows that Work Engagement and Turnover Intention share a significant negative correlation. Research by Wu

(2020) shows that Work Engagement is negatively correlated with Turnover Intention, indicating that nurses with good working spirit and high interest are more energetic. Such staff tend to be more relaxed at work, more likely to gain a sense of satisfaction and belonging, and have a lower Turnover Intention.

2.6 Summary of literature review and proposal of research hypotheses

2.6.1 Summary of literature review

At present, domestic and foreign scholars' researches on Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention mainly focus on the following two aspects: firstly, the researches on the current situation and influencing factors of Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention; secondly, the researches on the relations and models of Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention. However, there are still some inadequacies: (1) Most of the current studies focus on employees, doctors or nurses. As a result, the research objects are relatively single-type, and lack a comprehensive coverage on the medical workers as a whole (including doctors, nurses, administrative personnel, logistics personnel and the other workers); (2) Most of the current studies focus on the relations among one to three variables, but there are few integrated studies on the relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention. However, integrated research on the relations among these four variables is of important guiding significance for hospital managers carry out effective management of medical workers. To sum up, it is necessary to study the relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers as this thesis does.

2.6.2 Proposal of research hypotheses

With regard to the relationship between Perceived Justice and Organizational Commitment, many scholars mainly focused on research on the relationship between the two and the relationship between different dimensions of Perceived Justice and Organizational Commitment. According to Tian et al. (2014), Wei et al. (2017), and Li et al. (2019), there is a positive relationship between Perceived Justice and Organizational Commitment; Li (2013), Zheng et al. (2018), Jang et al. (2019), and Jordanian et al. (2019) distinguished different dimensions of Perceived Justice, and demonstrated the relationship between different

dimensions and Organizational Commitment and the strength of their relationships. The extent of influence of different dimensions on Organizational Commitment or their mutual correlation varies in different studies, but generally speaking, most studies show that Perceived Justice has a positive relationship with Organizational Commitment. In this context, we propose hypothesis 1: There is a positive correlation between Perceived Justice and Organizational Commitment.

In the research on the relationship between Perceived Justice and Work Engagement, many scholars have mainly studied the relationship between Perceived Justice and Work Engagement, different dimensions of Perceived Justice (Organizational Justice) and work Engagement, and different dimensions of Perceived Justice (Organizational Justice) and different dimensions of Work Engagement. Wan et al. (2018), Ma (2019), Huang et al. (2019), and Wu and Li (2020) conducted an in-depth study of the relationship between Perceived Justice and Work Engagement, and the results all showed that Perceived Justice (Organizational Justice) has a positive correlation or a positive impact on Work Engagement. Li et al. (2016), Wu and Li (2020), and Wu et al. (2020) refined the different dimensions of Perceived Justice (Organizational Justice), and carried out research on the relationship between different dimensions and Work Engagement. Their results show that different dimensions have a positive impact on Work Engagement, and the degree of the impact of various dimensions is different. Liu et al (2014), Wu (2020), and Shi et al. (2021) refined the dimensions of Perceived Justice (Organizational Justice) and Work Engagement, and studied the influence of different dimensions of the two and the strength of their effect. Their results show a significant positive correlation among different dimensions of the two. Although various scholars have different research methods and research content on the relationship between the two, they all agreed that Perceived Justice (Organizational Justice) has a positive impact on Work Engagement, so we propose hypothesis 2: There is a positive correlation between Perceived Justice and Work Engagement.

As for the relation between Perceived Justice and Turnover Intention, scholars have mainly studied the relationship between Perceived Justice and Turnover Intention, the relationship between different dimensions of Perceived and different dimensions of Turnover Intention, and the mediation factors of the two. Yu et al. (2016), Zheng et al. (2018), Wan and Qiao (2019) studied the relationship between Perceived Justice and Turnover Intention, and the results showed that there is a negative correlation between the two. Yu et al. (2018), Wu et al. (2020), Wu (2020), Li et al (2011), Shi et al. (2015), and Li et al. (2019) conducted research on the relationship between different dimensions of Perceived Justice and Turnover Intention. Perceived Justice exerts a direct negative impact on Turnover Intention. Dimensions such as

Procedural Justice and Distributive Justice have obvious effects on Turnover Intention, while the impact of dimensions such as Information Justice and Interpersonal Justice on Turnover Intention is not noticeable. Ma (2010), Ma et al. (2014), Han (2016), and Zheng et al. (2017) researched different dimensions of Perceived Justice and Turnover Intention. The results showed that different dimensions of Perceived Justice have an impact on Turnover Intention. In general, most studies indicate that there is a negative correlation between Perceived Justice and Turnover Intention. Therefore, based on related research results, we put forward hypothesis 3: There is a negative correlation between Perceived Justice and Turnover Intention.

In the research on the relationship between Organizational Commitment and Turnover Intention, Liu and Quan (2016), Qiu (2017), Chen (2019), and Hou (2019) studied the relationship between the two, and the results signified a strong and negative correlation between the two. Meng et al. (2012), Lu and Sun (2013), Yang (2013), and Zheng et al. (2018), through the study of the relation of different dimensions of Organizational Commitment and Turnover Intention, found that there is a negative correlation between the two. Therefore, we draw on relevant research results and combine the situation of this research to propose Hypothesis 4: There is a negative correlation between Organizational Commitment and Turnover Intention.

In terms of the relationship between Work Engagement and Turnover Intention, Zheng et al. (2016), and Yang et al. (2019) have conducted research and found that the relationship between the two is negative. He and Liu (2019) refined the different dimensions of Work Engagement, and studied the influence of different dimensions on Turnover Intention, finding that different dimensions of Work Engagement have a negative impact on Turnover Intention, and their extent of effects vary. Thus, we propose Hypothesis 5: There is a negative correlation between Work Engagement and Turnover Intention.

On the basis of the research on the role of Organizational Commitment and Work Engagement in the Perceived Justice and Turnover Intention, Shi et al. (2015), Deng (2015), Zheng et al. (2016), Ye et al. (2018), Chen (2018), Li et al. (2019), and Li et al. (2019) found out that Perceived Justice negatively affect Turnover Intention in a direct and indirect way. The indirect effects are delivered through job satisfaction, work engagement, job embeddedness, organizational commitment, career commitment, spiritual commitment, organizational support, and organizational cohesion. Therefore, based on the actual situation of this research, we propose Hypothesis 6 and Hypothesis 7: Work Engagement plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention, and Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention.

From what has been discussed above, the research hypotheses constructed specifically include:

H1: There is a positive correlation between Perceived Justice and Organizational Commitment;

H2: There is a positive correlation between Perceived Justice and Work Engagement;

H3: There is a negative correlation between Perceived Justice and Turnover Intention;

H4: There is a negative correlation between Organizational Commitment and Turnover Intention;

H5: There is a negative correlation between Work Engagement and Turnover Intention;

H6: Work Engagement plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention;

H7: Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention.

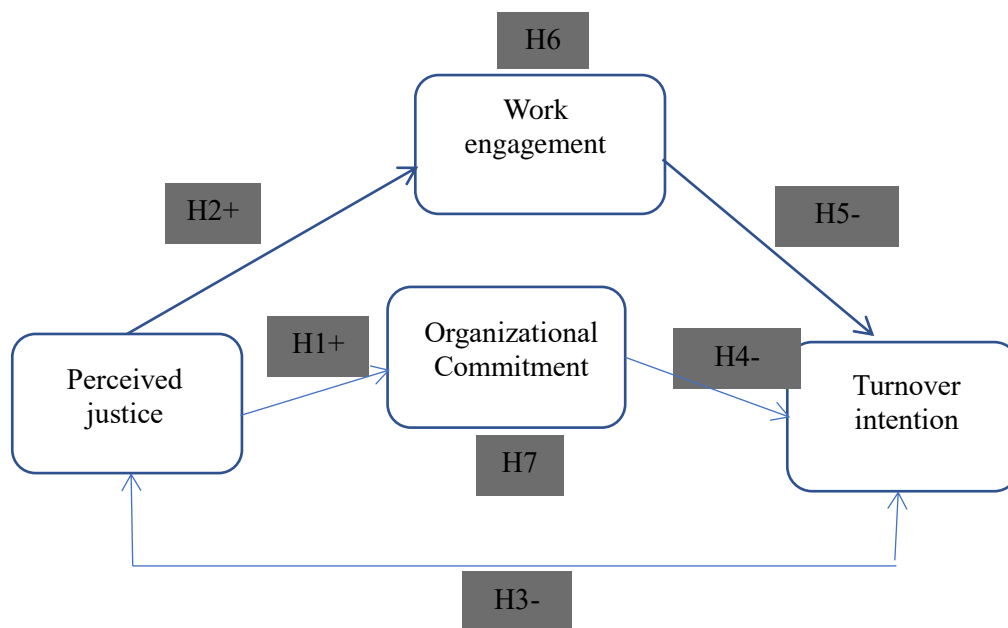


Figure 2.1 Theoretical model

Chapter 3: Research Design and Data Collection

3.1 Methodology

3.1.1 Design of the questionnaire

In order to better study the relationship between Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers, we firstly designed the first draft of the questionnaire by referring to the domestic and foreign scales with good reliability and validity based on the review of relevant literature at home and abroad; These scales encompass the distributive justice index compiled by Price and Mueller (1986), the distributive justice scale revised in China by Liang et al. (1999), the short-form organizational commitment scale developed by Porter and Mowday (1979), the Work Engagement Scale compiled by Schaufeli et al. (2002) and its Chinese version translated and revised by Wang et al. (2015), and the turnover intention scale compiled by Liang et al. (1999); secondly, through methods such as expert group discussion, we improved items of the questionnaire and optimized the questionnaire structure, so that the questionnaire can be better understood by its participants; at the same time, taking data collation and analysis into consideration, we simplified the questionnaire structure as much as possible, so as to make the respondents understand the contents of the questionnaire, then improving the quality of the data.

3.1.2 Field survey

The field survey is divided into two stages: the pre-survey and the formal survey. During the pre-survey, at first, the investigation was carried out in line with the established survey plan. Then, according to the survey results, the items of the questionnaire were revised and the ambiguous contents were checked and adjusted, so as to ensure the clarity and accuracy of the survey and improve the quality of the data. Finally, the preliminary tests of the reliability and validity were carried out on the pre-survey data to verify the scientificity of the questionnaire. The formal questionnaire was then formed. After the questionnaire was determined, we conducted a pre-survey, and tested the reliability and validity of the pre-survey data. The results show that the Cronbach's Alpha coefficient and KMO value of the pre-survey questionnaire meet the standards of reliability and validity, indicating that the overall reliability and validity

of the questionnaire is good, and the formal research can be carried out. At the same time, we also clarified the key links and matters needing attention during the field survey to ensure the smooth conduct of the formal investigation.

As for the formal survey, before the survey: firstly, the research group selected the hospitals at different levels in Shenzhen as the object of study, and contacted the managers and the leaders of clinical departments of the sample hospitals to obtain support and cooperation. Secondly, a systematic training was conducted on the investigators to make them be familiar with the contents of the survey, so that they can better answer the interviewees' questions. Thirdly, during questionnaire survey, the investigator first briefly introduced the subject to the interviewees, and began the formal survey after obtaining the interviewees' consent. In view of the high educational level of the respondents, the questionnaire was filled out by the respondents themselves under the instruction of the investigators, and the time limit was 20-30 minutes.

3.1.3 Data collation

After the questionnaires were returned, we screened the questionnaires collected according to the questionnaire criteria such as "whether it is completely filled, whether the law of questionnaire-filling is obvious, and whether the questionnaires are similarly filled". In this regard, unqualified and non-standardized questionnaires can be ruled out so as to ensure the quality. After the completion of data collection, the quality of the questionnaire was controlled. The qualified questionnaires were coded and the data was inputted and checked by two persons to ensure the accuracy of the data. At last, in order to provide the basis for the later data analysis, a standard database was established according to the analysis requirements.

The SPSS software and AMOS.21 model were used for the statistical processing of the collected data.

(1) Analysis of reliability

Reliability analysis refers to the degree of consistency of the results obtained when the same object is repeatedly measured by the same method. Cronbach's α coefficient was employed to analyze the reliability of the scale to assess the internal consistency. It is generally believed that the Cronbach's α coefficient over 0.70 can prove the reliability of the scale comparatively good. Cronbach's Alpha coefficient greater than 0.8 indicates very good reliability; 0.7 to 0.8 indicates good reliability; and less than 0.7 showcases insufficient reliability; the higher the reliability is, the better the consistency and stability of the scale will be (Hu et al., 2020).

(2) Analysis of validity

Validity analysis refers to the validity and accuracy of the designed questionnaire, which is used to measure the rationality and accuracy of the designed items. The analysis of the scale's validity was carried out through factor analysis. KMO adaptability test and Barlett sphere test were adopted to determine whether the scale can satisfy the factor analysis conditions. The KMO value is required to be greater than 0.5, and P value of the Bartlett sphericity test is required to be less than 0.05, which can be regarded as meeting the conditions (Zhang et al., 2019).

In this study, factors were extracted by principal component analysis. As a commonly used multivariate method for statistical analysis, principal component analysis tries to recombine the original variables into a new set of independent variables, and at the same time, according to the actual needs, take out of a few comprehensive variables to reflect the information of the original variables as much as possible (Han et al., 2012; Lin & Du, 2013).

(3) Statistical description and correlation analysis: (mean \pm standard deviation) was utilized for statistical description and Spearman correlation was used to analyze the correlation among variables.

(4) Structural equation modeling

In this study, structural equation modeling (SEM) was used to test the hypothesis model. Compared with the traditional data analysis methods, SEM can deal with the relationship between variables more easily and it can also calculate the measurement error of the indicators, as well as the measurement indicators and potential variables in the model.

This study constructed seven hypotheses around four variables: Perceived Justice, Work Engagement, Organizational Commitment, and Turnover Intention. The hypotheses are: there is a positive correlation between Perceived Justice and Organizational Commitment, a positive correlation between Perceived Justice and Work Engagement, a negative correlation between Perceived Justice and Turnover Intention, a negative correlation between Organizational Commitment and Turnover Intention, a negative correlation between Work Engagement and Turnover Intention; Work Engagement plays an intermediary role in the reverse correlation between Perceived Justice and Turnover Intention; Organizational Commitment plays an intermediary role in the reverse correlation between Perceived Justice and Turnover Intention. Based on these hypotheses, four hypothesis models were proposed (the relationship model of Perceived Justice, Organizational Commitment, and Work Engagement; the relationship model of Perceived Justice, Organizational Commitment, and Work Engagement towards Turnover Intention; the intermediary model of Work Engagement between Perceived Justice and

Turnover Intention; the intermediary model of Organizational Commitment between Perceived Justice and Turnover Intention). The AMOS.21 model was used to estimate and test the path coefficient, and the fitting indicator of the model was used to judge the fitting degree of the actual data structure and the theoretical structure. The inspection level showcases $\alpha=0.05$.

3.2 Data collection and combing

3.2.1 Questionnaire contents

3.2.1.1 Variables of personal information

This part includes basic personal information (gender, age, marital status, number of children), education information (educational level, years of schooling, years of graduation), and job information (occupation type, position, working years in the current organization, total working years, average working hours per week, team size, hospital scale). The options for each variable are set as follows:

1. Gender: male and female
2. Age: 30 years old and under, 31-50 years old, 51-60 years old
3. Marital status: unmarried, divorced or widowed (single without partner), married or cohabiting with a partner (with a spouse or partner)
4. Educational qualification: graduates of technical secondary schools, graduates of junior colleges, bachelor's degree, master's degree and doctor's degree
5. Number of children: 0, 1, 2
6. Educational level: technical secondary school or below, undergraduate, postgraduate or above
7. Number of schooling: 0-12 years, 13-17 years, 18 years and above
8. Years of graduation: < 1 year, 1-3 years, 4-7 years, 8-10 years, > 10 years
9. Types of occupation: doctor, nurse, administrator, hospital logistics staff, others
10. Position: hospital leader, hospital middle manager, department manager (director or deputy director), management staff, clinical staff
11. Working years in the current organization: 1-5 years, 6-10 years, 11-15 years, 16-20 years, > 20 years
12. Total working years: 1-5 years, 6-10 years, 11-15 years, 16-20 years, > 20 years
13. Average working hours per week: < 30 hours, 30-40 hours, 41-50 hours, 51-60 hours, > 60 hours

14. Team size: < 10, 10-15, 16-20, 21-25, > 25

15. Hospital scale: 600, 800, 1400

16. Hospital level: first-level hospital, second-level hospital, tertiary hospital

3.2.1.2 Variables of key contents

The variables of key contents include Perceived Justice, Work Engagement, Organizational Commitment, and Turnover Intention.

(1) Perceived Justice

With regard to the definition of Perceived Justice, this study draws lessons from the views of Han and Li (2013) and believes that doctors' Perceived Justice refers to the doctors' subjective perception of their received remuneration. The measurement items are referred to the distributive justice index compiled by Price and Mueller (1986) and the distributive justice scale revised by Liang (1999) in China as follows

Distributive Justice (B): 1) You are fairly rewarded considering your responsibilities; 2) You are fairly rewarded in view of the amount of experience you have; 3) You are fairly rewarded for the amount of effort you put forth; 4) You are fairly rewarded for the work you have done well; 5) You are fairly rewarded considering the stresses and strains of your job.

The options of the scale are set according to 5-point Likert scale. Each item has a total of five options, including "completely disagree", "disagree", "neither disagree or agree", "agree", and "completely agree", which were scored as 1 to 5 points in turn. These items are all positive ones. The average score of all items on Distributive Justice reflects the overall perception of medical workers on salary distribution. The higher the score is, the higher the sense of justice in salary distribution will be.

Interactional Justice (E): 1) I can count on my supervisor to have fair policies; 2) Where I work, my supervisor's procedures and guidelines are very fair; 3) My supervisor does not have any fair policies; 4) The procedures my supervisor uses to make decisions are not fair; 5) My supervisor keeps me informed of why things happen the way they do; 6) My supervisor's decisions are made out in the open so that everyone always knows what is going on; 7) My supervisor treats me with dignity and respect; 8) Whether the outcome is good or bad, I always feel like I am kept informed by my supervisor; 9) I feel my supervisor holds me in high regard; 10) My supervisor makes it clear to me that I am a valuable employee; 11) My supervisor does not care how I am doing.

The options of the scale are set according to 5-point Likert scale. Each item has a total of five options, including "completely disagree", "disagree", "neither disagree or agree", "agree",

and “completely agree”. The items in this part include positive ones and negative ones.

The average score of all items reflects the overall perception of medical workers on Interactional Justice. The higher the score is, the higher the sense of Interactional Justice will be.

Procedural Justice (F): 1) The hospital’s procedures and guidelines are very fair; 2) The procedures the hospital uses to make decisions are not fair; 3) I can count on the hospital to have fair policies; 4) We do not have any fair policies at the hospital; 5) The hospital makes it clear to me that I am a valuable employee; 6) I am kept informed, by the hospital, of why things happen the way they do; 7) Whether the outcome is good or bad, I always feel like I am kept informed by the hospital; 8) The hospital treats me with dignity and respect; 9) The hospital’s decisions are made out in the open so that everyone always knows what is going on; 10) Whether right or wrong, the hospital always explains decisions to me; 11) I feel the hospital holds me in high regard; 12) The hospital does not care how I am doing.

The options of the scale are set according to 5-point Likert scale. Each item has a total of five options, including “completely disagree”, “disagree”, “neither disagree or agree”, “agree”, and “completely agree”. The items in this part include both positive and negative ones.

The average score of all items reflects the overall perception of medical workers on Procedural Justice. The higher the score is, the higher the sense of Procedural Justice will be.

(2) Work Engagement

In regard of the definition of Work Engagement, this study draws on the viewpoints of Zhang and Chen (2009), He (2011), Yang (2013), as well as Hu and Wang (2014), which refers to an individual’s positive and complete emotions and cognitive state related to work. The measurement items are drawn from the Work Engagement Scale compiled by Schaufeli et al. (2002) and its Chinese version translated and revised by Wang et al. (2015) as below: 1) When I get up in the morning, I feel like going to work; 2) To me, my job is challenging; 3) When I am working, I forget everything else around me; 4) At my work, I feel bursting with energy; 5) My job inspires me; 6) Time flies when I am working; 7) At my work I always persevere, even when things do not go well; 8) I am enthusiastic about my job; 9) I get carried away when I am working; 10) I can continue working for a very long period at a time; 11) I am proud of the work that I do; 12) It is difficult to detach myself from my job; 13) At my job, I am very resilient, mentally; 14) I find the work that I do full of meaning and purpose; 15) I am immersed in my work; 16) When working, I feel strong and vigorous; 17) I feel happy when I am working intensely.

The options of the scale are set according to 6-point Likert scale. Each item has a total of

six options: “never, rarely, sometimes, fairly often, very often, always”. All of the items are positive ones. From “never” to “always”, it is scored as 1-6 points in turn. The average score of all items reflects the Work Engagement of medical workers. The higher the score is, the more engaged and harder the worker is.

(3) Organizational Commitment

In terms of the definition of Organizational Commitment, this study draws on the viewpoints of Tim and Chery (2000) as well as Liu and Yang (2012). It refers to individuals' recognition of a specific organization and its goals, their loyalty to the organization, attitude or affirmative introversion of working hard for the organization, and wish of continuously being a member of the organization. The measurement items are referred to the short-form organizational commitment scale developed by Porter and Mowday (1979) et al. as follows: 1) I am willing to put in a great deal of effort beyond that normally expected in order to help this hospital to be successful; 2) I talk up this hospital to my friends as a great organization to work for; 3) I would accept almost any types of job assignment in order to keep working in this hospital; 4) I find that my values and hospital's values are very similar; 5) I am proud to tell others that I am part of this hospital; 6) This hospital really inspires the very best in me in the way of job performance; 7) I am extremely glad I chose this hospital to work for; 8) I really care about the prospect of this hospital; 9) For me, this is the best of all possible hospitals to work for; 10) I am willing to stand up to protect the reputation of this hospital; 11) I am willing to assist new colleagues to adapt to the work environment; 12) I am eager to tell outsiders good news about this hospital and clarify their misunderstandings; 13) I am willing to help colleagues solve work related problems; 14) I make constructive suggestions that can improve the operation of the hospital; 15) I am willing to cover work assignments for colleagues when needed; 16) I actively attend hospital meetings; 17) I am willing to coordinate and communicate with colleagues.

The options of the scale are set according to 5-point Likert scale. Each item has a total of five options, including “completely disagree”, “disagree”, “neither disagree or agree”, “agree”, and “completely agree”, which are scored from 1 to 5 points in turn. The items in this part are all positive ones. The average score of all items reflects the medical workers' loyalty and recognition of their organizations. A higher score indicates a higher degree of loyalty and recognition of the medical workers towards their hospitals.

(4) Turnover Intention

As to the definition of Turnover Intention, this research draws on the views of Li and Song (2007) as well as Yang (2013). It refers to the possibility of individuals changing their jobs

within a certain period of time. The measurement items are drawn from the turnover intention scale compiled by Liang et al. (1999) as below: 1) I often think of leaving this hospital; 2) It is very possible that I will look for a new job next year; 3) If I may choose again, I will choose to work for another hospital.

The options of the scale are set according to 5-point Likert scale. Each item has a total of five options, including “completely agree”, “agree”, “neither disagree or agree”, “disagree”, and “completely disagree”, which are scored from 1 to 5 points in turn. The items in this part are all negative ones. The average score of all items reflects the medical workers’ Turnover Intention. The higher the score is, the staff has a stronger Turnover Intention.

(5) Medical workers’ evaluation on the differences of their hospitals’ reward system

The measurement items are: 1) Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with the colleagues that perform similar jobs in this hospital, do you think there is a difference? 2) Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with your immediate supervisor, do you think there is a difference? 3) Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with the colleagues that perform similar jobs in other hospitals, do you think there is a difference? 4) If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with colleagues doing similar work in the hospital, do you think the existing differences are reasonable? 5) If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with your direct leaders, do you think the existing differences are reasonable? 6) If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with colleagues doing similar jobs in other hospitals, do you think the existing differences are reasonable? 7) Comparing with your colleagues that perform a similar job in this hospital, do you think the existing differences are more or less? In this part, the scores and the options are set in two ways:

The first is the 4-point Likert scale. There are four options: “there is not much difference”, “there is some difference”, “there is a big difference”, and “there is a huge difference”, which are scored from 1 to 4 points in turn. The items include: 1) Comparing the total rewards you receive (wages, extra-hours incentives, and bonus) with the colleagues that perform similar jobs in this hospital, do you think there is a difference? 2) Comparing the total rewards you receive (wages, extra-hours incentives, and bonus) with your immediate supervisor, do you think there is a difference? 3) Comparing the total rewards you receive (wages, extra-hours incentives, and bonus) with the colleagues that perform similar jobs in other hospitals, do you think there is a difference? The average score of all items reflects the medical workers’ different perception of

their total rewards (wages, extra-hours incentives, and bonus). A higher score indicates a bigger difference in the staff's perception of their total rewards (wages, extra-hours incentives, and bonus).

The second is also a 4-point Likert scale. There are four options: "there is no justification to the differences", "differences are not quite justified", "differences are reasonably justified", "differences are perfectly justified", which are scored from 1 to 4 points in turn. The items include: 4) If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus) with colleagues doing similar work in the hospital, do you think the existing differences are reasonable? 5) If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus) with your direct leaders, do you think the existing differences are reasonable? 6) If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus) with colleagues doing similar jobs in other hospitals, do you think the existing differences are reasonable? 7) Compared with colleagues doing similar work in the hospital, do you think your wages are more or less? The average score of all items reflects the medical workers' perception of the differences in their total rewards (wages, extra-hours incentives, and bonus). The higher the score, the more reasonable the medical staff think the differences in their total rewards (wages, extra-hours incentives, bonus).

3.2.2 Basic information of the subjects

In this study, a total of 602 questionnaires were distributed and 561 valid questionnaires were sorted out, with an effective collection rate of 93.2%. The details are as follows:

(1) Personal information

Gender: the proportion of the male accounts for 24.8% while the female 75.2%;

Age: people under 50 takes up 94.3%, among which people between 31 and 50 takes up 50.1%;

Marital status: the married or those living with a partner (with a spouse or partner) occupies 64.9%;

Number of children: those with 0-1 child accounts for 77.9% while those with two children accounts for 22.1%.

(2) Education

Educational qualification: those with a bachelor's degree account for 76.5%, those with a master's degree or above accounts for 15.3%, and the graduates of technical secondary schools or below accounts for 8.2%;

Years of schooling: those who go to school for 13-17 years takes up 62.4%, 18 years or longer 29.9%;

Years after graduation: those who graduate less than 7 years occupies 54.2%, more than 10 years 33.3%, 4-7 years 22.6%, and 1-3 years 21.6%.

(3) The work

Types of occupation: doctors and nurses account for 31.9% and 49.6% respectively, the administrators 7.8% and the logistics staff 5.5%;

Position: Clinical staff takes up 77.5%, administrators 9.4%, department managers (directors or deputy directors) and middle-level hospital managers 6.1%;

Working years in the current hospital: those who work in the current organization for 1-5 years occupies 51.3%, for 6-10 years 23.7%, for 11-15 years 12.8%, and for 16-20 years 7.3%;

Total working years: those with a total number of 1-10 working years takes up 57.1%, among which those with 1-5 working years accounts for 33.2% and with 6-10 working years 23.9%; those with a total number of 11-15 working years takes up 14.3%, 16-20 years 13.0% and more than 20 years 15.7%;

Average working hours per week: those with the average working hours per week of 30-40 hours and over 60 hours are the most, occupying 35.3% and 36.2% respectively, 41-50 hours 16.6%, less than 30 hours 6.6% and 51-60 hours 5.3%.

(4) The team

The team scale: 27.8% work in a team with over 25 staff, 17.6% in a team less than 10 staff, 21.4% in a team with 10-15 staff, 22.8% in a team with 16-20 staff, and 10.3% in a team with 21-25 staff;

The hospital scale: 53.8% work in a hospital with more than 1,400 staff, 24.8% in a hospital with 600-800 staff, and 21.4% in a hospital with less than 600 staff;

The hospital level: a larger proportion of the subjects work in the primary hospitals, taking up 53.8%, while those work in the secondary hospitals 21.4% and those in the tertiary ones 24.8%. Details are shown below in Table 3.1

Table 3.1 Basic information of respondents

Variables	Cases (number)	Percentage %
Gender		
Male	139	24.8
Female	422	75.2
Age		
30 and below	248	44.2

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variables	Cases (number)	Percentage %
31-50	281	50.1
51-60	32	5.7
Marital status		
Unmarried, divorced or death of spouse (single without partner)	197	35.1
Married or living with a partner (with spouse or partner)	364	64.9
Number of children		
0	221	39.4
1	216	38.5
2	124	22.1
Educational level		
Vocational school and below	46	8.2
Bachelor	429	76.5
Postgraduate and above	86	15.3
Number of school years		
0-12 years	43	7.7
13-17 years	350	62.4
18 years and above	168	29.9
Years of graduation		
less than 1 year	56	10.0
1-3 years	121	21.6
4-7 years	127	22.6
8-10 years	70	12.5
above 10 years	187	33.3
Personnel category		
Doctor	179	31.9
Nurse	278	49.6
Administrative managerial personnel	44	7.8
Staff of hospital logistics support	31	5.5
Others	29	5.2
Position		
Hospital leaders	5	0.9
Middle-level managers of hospitals	34	6.1
Department manager (director or deputy director)	34	6.1
Management staff	53	9.4

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variables	Cases (number)	Percentage %
Clinical staff	435	77.5
Working years in the current organization		
1-5 years	288	51.3
6-10 years	133	23.7
11-15 years	72	12.8
16-20 years	41	7.3
>20 years	27	4.8
Total working years		
1-5 years	186	33.2
6-10 years	134	23.9
11-15 years	80	14.3
16-20 years	73	13.0
>20 years	88	15.7
Average working hours per week		
<30 hours	37	6.6
30-40 hours	198	35.3
41-50 hours	93	16.6
51-60 hours	30	5.3
>60 hours	203	36.2
Team scale		
<10 persons	99	17.6
10-15 persons	120	21.4
16-20 persons	128	22.8
21-25 persons	58	10.3
>25 persons	156	27.8
Hospital scale		
<600	120	21.4
600-800	139	24.8
>1400	302	53.8
Hospital level		
Primary hospital	302	53.8
Secondary hospital	120	21.4
Tertiary hospital	139	24.8

3.3 Analysis of the questionnaire's reliability and validity

3.3.1 Analysis of reliability and validity

3.3.1.1 Analysis of reliability

Based on the data analysis of the collected questionnaire, the calculation of Cronbach's Alpha coefficients was carried out for the dimensions of Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention. The results are shown in the Table 3.2.

Table 3.2 Reliability analysis results of each scale

Variables	Dimension	Items	Cronbach's Alpha coefficient of each dimension	Cronbach's Alpha coefficient of sub-scale
Perceived Justice	Distributive Justice (B)	5	0.965	0.950
	Interactional Justice (E)	11	0.914	
	Procedural Justice (F)	12	0.931	
Work Engagement	Work Engagement (D)	17	0.955	0.955
Organizational Commitment	Organizational Commitment (H)	9	0.912	0.932
	Organizational Commitment (I)	8	0.919	
Turnover Intention	Turnover Intention (J)	3	0.909	0.909

The Cronbach's Alpha coefficients of the Perceived Justice scale, Work Engagement scale, Organizational Commitment scale, and Turnover Intention scale are 0.950, 0.955, 0.932, and 0.909, respectively, which are all greater than 0.8. These coefficients reach the commonly used statistical standards, indicating that the reliability of the questionnaire is good, and the results are reliable.

3.3.1.2 Analysis of validity

(1) Perceived Justice scale

The SPSS software was used to analyze the Perceived Justice scale (Distributive Justice, Procedural Justice, Interactional Justice), and the results of Bartlett's test of sphericity and KMO calculation were obtained. The analysis results show that the KMO value of the scale of Perceived Justice is $0.945 > 0.5$, and the result of Bartlett's Test of Sphericity is $P < 0.05$, indicating the high validity of the scale, seeing Annex B Table b.1 for details.

In order to make the scale more scientific and reliable, principal component analysis was conducted on the items of Perceived Justice scale. The principal component analysis was employed to extract factors, and the number of factors is determined by eigenvalues greater than 1. The maximum variance rotation was performed and the rotated component matrix method was also used. The analysis results show that there are 6 factors whose eigenvalues were greater than 1, and their cumulative percentage of variance explained is 73.282%, indicating a good explanatory ability of the scale. The results are shown in Annex B Table b.2 and b.3.

(2) Work Engagement scale

The SPSS software was used to analyze the Work Engagement scale, from which the results of Bartlett's test of sphericity and KMO calculation were obtained. The analysis results displayed that the KMO value of the Work Engagement scale is $0.961 > 0.5$, and the result of Bartlett's Test of Sphericity is $P < 0.05$, indicating a high validity of the scale, seeing Annex B Table b.4 for details.

In order to make the scale more scientific and reliable, principal component analysis was conducted on the items of Work Engagement scale, through which the factors were extracted. The number of factors is determined by eigenvalues greater than 1. The maximum variance rotation was performed and the rotated component matrix method was also used. The analysis results show that there are 2 factors in the Work Engagement scale, whose eigenvalues were greater than 1, and their cumulative percentage of variance explained is 66.226%, indicating a good explanatory ability. The results are shown in Annex B Table b.5 and b.6 .

(3) Organizational Commitment scale

The Organizational Commitment scale was analyzed by SPSS software, from which the results of Bartlett's test of sphericity and KMO calculation were obtained. The analysis results revealed that the KMO value of the Organizational Commitment scale is $0.938 > 0.5$, and the result of Bartlett's Test of Sphericity is $P < 0.05$, indicating good validity of the Organizational Commitment scale, seeing Annex B Table b.7 for details.

To make the scale more scientific and credible, principal component analysis was conducted on the items of Organizational Commitment scale, through which the factors were extracted. The number of extracted factors is determined by eigenvalues greater than 1. The maximum variance rotation was performed and the rotated component matrix method was also used. The results show that there are 3 factors in the Organizational Commitment scale, whose eigenvalues were greater than 1, and their cumulative percentage of variance explained is 69.970%, suggesting a good ability of explanation. The results are shown in Annex B Table b.8

and b.9.

(4) Turnover Intention scale

The Turnover Intention scale was analyzed through SPSS software, from which the results of Bartlett's test of sphericity and KMO calculation were obtained, seeing Annex B Table b.10 for details.

To make the scale more scientific and credible, principal component analysis was conducted on the items of Turnover Intention scale, through which factors were extracted. The number of the extracted factors is determined by eigenvalues greater than 1. The maximum variance rotation was performed and the rotated component matrix method was also used. The results show that there are 1 factor in the Turnover Intention scale, whose eigenvalues were greater than 1, and their cumulative percentage of variance explained is 84.693%, suggesting a good ability of explanation. The results are shown in Annex B Table b.11 and b.12.

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Chapter 4: Research Results

4.1 Analysis of Perceived Justice

4.1.1 Distributive Justice (B)

The Distributive Justice (B) scale has 5 items in total. Each item's evaluation score ranges from 1-5 points. The Mean \pm Standard Deviation of each item ranges from (2.830 \pm 1.060) to (3.000 \pm 1.037). The Mean \pm Standard Deviation of item 1 (You are fairly rewarded considering your responsibilities.) is 2.960 \pm 1.051, and that of item 2 (You are fairly rewarded in view of the amount of experience you have.) is 2.980 \pm 1.043; the Mean \pm Standard Deviation of item 3 (You are fairly rewarded for the amount of effort you put forth.) is 2.890 \pm 1.058, and that of item 4 (You are fairly rewarded for the work you have done well.) is 3.000 \pm 1.037, and that of item 5 (You are fairly rewarded considering the stresses and strains of your job.) is 2.830 \pm 1.060. These are shown in Annex B Table b.13.

The analysis results of this scale show that the statistically significant factors ($P < 0.05$) for Distributive Justice (B) are gender, educational level, number of school years, personnel category, position, average working hours per week, team scale, hospital scale and hospital level. See Table 4.1.

Table 4.1 One-way analysis of variance in Distributive Justice (B)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	2.918 \pm 0.977	0.439	0.645
	31-50 years old	2.958 \pm 0.986		
	51-60 years old	2.794 \pm 1.034		
Gender	Male	2.784 \pm 1.012	4.129	0.043
	Female	2.980 \pm 0.971		
Educational level	Vocational school and below	3.270 \pm 0.925	3.094	0.046
	Bachelor	2.892 \pm 0.997		
	Postgraduate and above	2.944 \pm 0.922		
Number of school years	0-12 years	3.121 \pm 0.965	3.191	0.042
	13-17 years	2.851 \pm 0.990		
	18 years and above	3.049 \pm 0.963		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Marital status	Unmarried, divorced or death of spouse (single without partner)	2.845±0.952	2.334	0.127
	Married or living with a partner (with spouse or partner)	2.978±0.999		
Number of children	0	2.886±0.981	0.527	0.591
	1	2.938±1.016		
	2	2.998±0.935		
Years of graduation	<1 year	2.932±0.815	1.334	0.258
	1-3 years	3.005±0.921		
	4-7 years	2.951±1.088		
	8-10 years	2.683±0.991		
	>10 years	2.962±0.988		
Personnel category	Doctors	2.733±0.934	4.662	0.001
	Nurses	2.950±1.016		
	Administrative staff	3.314±0.948		
	Logistics and health support personnel	3.284±0.922		
	Others	3.007±0.822		
Position	Hospital leaders	3.560±0.984	3.248	0.012
	Middle-level hospital managers	3.000±0.996		
	Department manager (director or deputy director)	3.047±0.849		
	Management staff	3.313±0.976		
	Clinical staff	2.863±0.984		
Working years in the current organization	1-5 years	2.894±0.961	1.946	0.101
	6-10 years	2.827±1.029		
	11-15 years	3.194±0.966		
	16-20 years	3.059±0.975		
	>20 years	2.933±0.992		
Total working years	1-5 years	2.969±0.973	1.861	0.116
	6-10 years	2.788±0.983		
	11-15 years	3.095±0.878		
	16-20 years	3.047±1.030		
	>20 years	2.823±1.039		
Average working hours per week	<30 hours	2.887±1.079	5.995	<0.001
	30-40 hours	3.161±0.918		
	41-50 hours	2.712±1.005		
	51-60 hours	2.447±0.964		
	>60 hours	2.887±0.975		
Team scale	<10 people	2.962±0.971	5.952	<0.001
	10-15 people	3.162±0.909		
	16-20 people	2.680±0.988		
	21-25 people	3.248±0.924		
	>25 people	2.822±1.005		
Hospital scale	<600	2.983±0.786	3.247	0.040
	600-800	2.734±1.083		
Hospital level	>1400	3.001±0.998	3.247	0.040
	Primary hospital	3.001±0.998		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
	Secondary hospital	2.983±0.786		
	Tertiary hospital	2.734±1.083		

4.1.2 Interactional Justice (E)

The Interactional Justice (E) scale includes 11 items. The evaluation score range of each item is 1-5 points. The Mean \pm Standard Deviation of each item ranges from (3.370±0.856) to (3.710±0.839). The Mean \pm Standard Deviation of item 1 (I can count on my supervisor to have fair policies.) is 3.700±0.881; that of item 2 (Where I work, my supervisor's procedures and guidelines are very fair.) is 3.520±0.900; that of item 3 (My supervisor does not have any fair policies.) is 3.630±0.942; that of item 4 (The procedures my supervisor uses to make decisions are not fair.) is 3.600±0.891; that of item 5 (My supervisor keeps me informed of why things happen the way they do.) is 3.530±0.815; that of item 6 (My supervisor's decisions are made out in the open so that everyone always knows what is going on.) is 3.610±0.865; that of item 7 (My supervisor treats me with dignity and respect.) is 3.710±0.839; that of item 8 (Whether the outcome is good or bad, I always feel like I am kept informed by my supervisor.) is 3.710±0.777; that of item 9 (I feel my supervisor holds me in high regard.) is 3.370±0.856; that of item 10 (My supervisor makes it clear to me that I am a valuable employee.) is 3.470±0.890; that of item 11 (My supervisor does not care how I am doing.) is 3.590±0.917. See Annex B Table b.14.

The analysis results of the Interactional Justice (E) scale show that the factors which are of statistical significance ($P < 0.05$) for Interactional Justice are gender, school years, graduation years, personnel category, working years in the current organization, hospital scale and hospital level. See Table 4.2.

Table 4.2 One-way analysis of variance in Interactional Justice (E)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	3.658±0.596	3.055	0.052
	31-50 years old	3.530±0.674		
	51-60 years old	3.500±0.604		
Gender	Male	3.433±0.654	10.568	0.001
	Female	3.634±0.627		
Educational level	Vocational school and below	3.708±0.612	1.161	0.314
	Bachelor	3.582±0.641		
	Postgraduate and above	3.531±0.642		
Number of school years	0-12 years	3.841±0.480	6.946	0.001
	13-17 years	3.540±0.639		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Marital status	18 years and above Unmarried, divorced or death of spouse (single without partner)	3.611±0.660	0.702	0.403
	Married or living with a partner (with spouse or partner)	3.614±0.591		
		3.568±0.664		
Number of children	0	3.647±0.601	1.827	0.162
	1	3.534±0.679		
	2	3.562±0.628		
Years of graduation	<1 year	3.750±0.512	3.338	0.011
	1-3 years	3.677±0.565		
	4-7 years	3.607±0.666		
	8-10 years	3.491±0.657		
	>10 years	3.495±0.678		
Personnel category	Doctors	3.523±0.669	2.726	0.034
	Nurses	3.665±0.587		
	Administrative staff	3.426±0.658		
	Logistics and health support personnel	3.393±0.780		
	Others	3.636±0.648		
Position	Hospital leaders	3.564±0.470	0.582	0.675
	Middle-level hospital managers	3.487±0.733		
	Department manager (director or deputy director)	3.655±0.527		
	Management staff	3.499±0.694		
	Clinical staff	3.597±0.635		
Working years in the current organization	1-5 years	3.637±0.606	4.025	0.003
	6-10 years	3.561±0.658		
	11-15 years	3.665±0.687		
	16-20 years	3.259±0.642		
	>20 years	3.418±0.611		
Total working years	1-5 years	3.677±0.607	1.821	0.123
	6-10 years	3.546±0.643		
	11-15 years	3.601±0.590		
	16-20 years	3.521±0.701		
	>20 years	3.487±0.676		
Average working hours per week	<30 hours	3.639±0.639	1.796	0.128
	30-40 hours	3.654±0.598		
	41-50 hours	3.622±0.664		
	51-60 hours	3.436±0.485		
	>60 hours	3.512±0.680		
Team scale	<10 people	3.542±0.688	0.266	0.900
	10-15 people	3.582±0.613		
	16-20 people	3.590±0.694		
	21-25 people	3.651±0.586		
	>25 people	3.585±0.603		
Hospital scale	<600	3.443±0.608	3.907	0.021
	600-800	3.600±0.619		
	>1400	3.634±0.654		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Hospital level	Primary hospital	3.634±0.654	3.907	0.021
	Secondary hospital	3.443±0.608		
	Tertiary hospital	3.600±0.619		

4.1.3 Procedural Justice (F)

The Procedural Justice (F) scale includes a total of 12 items. The evaluation score range of each item is 1-5 points. The Mean \pm Standard Deviation of each item ranges from (3.120±0.816) to (3.640±0.825). The Mean \pm Standard Deviation of item 1 (The hospital's procedures and guidelines are very fair.) is 3.150±0.904; that of item 2 (The procedures the hospital uses to make decisions are not fair.) is 3.350±0.836; that of item 3 (I can count on the hospital to have fair policies.) is 3.420±0.839; that of item 4 (We do not have any fair policies at the hospital.) is 3.640±0.825; that of item 5 (The hospital makes it clear to me that I am a valuable employee.) is 3.340±0.810; that of item 6 (I am kept informed, by the hospital, of why things happen the way they do.) is 3.300±0.749; that of item 7 (Whether the outcome is good or bad, I always feel like I am kept informed by the hospital.) is 3.400±0.787; that of item 8 (The hospital treats me with dignity and respect.) is 3.420±0.796; that of item 9 (The hospital's decisions are made out in the open so that everyone always knows what is going on.) is 3.460±0.799. See Annex B Table b.15.

The analysis results of the Procedural Justice scale show that the factors of statistical significance ($P < 0.05$) for Procedural Justice are gender, the number of school years, personnel category, average working hours per week, hospital scale and hospital level. See Table 4.3.

Table 4.3 One-way analysis of variance in Procedural Justice (F)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	3.382±0.594	0.435	0.648
	31-50 years old	3.349±0.628		
	51-60 years old	3.443±0.642		
Gender	Male	3.252±0.649	6.740	0.010
	Female	3.407±0.597		
Educational level	Vocational school and below	3.408±0.599	0.099	0.906
	Bachelor	3.365±0.622		
	Postgraduate and above	3.366±0.584		
Number of school years	0-12 years	3.659±0.466	10.905	<0.001
	13-17 years	3.304±0.608		
	18 years and above	3.431±0.632		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Marital status	Unmarried, divorced or death of spouse (single without partner)	3.359±0.586	0.089	0.766
	Married or living with a partner (with spouse or partner)	3.375±0.629		
Number of children	0	3.370±0.591	0.162	0.851
	1	3.383±0.635		
	2	3.343±0.618		
Years of graduation	<1 year	3.491±0.456	1.890	0.113
	1-3 years	3.415±0.614		
	4-7 years	3.366±0.647		
	8-10 years	3.235±0.648		
	>10 years	3.355±0.614		
Personnel category	Doctors	3.260±0.596	2.468	0.044
	Nurses	3.416±0.610		
	Administrative staff	3.417±0.617		
	Logistics and health support personnel	3.347±0.674		
	Others	3.537±0.623		
	Hospital leaders	4.050±0.826		
Position	Middle-level hospital managers	3.392±0.633	1.845	0.119
	Department manager (director or deputy director)	3.458±0.538		
	Management staff	3.382±0.601		
	Clinical staff	3.351±0.614		
Working years in the current organization	1-5 years	3.378±0.598	2.071	0.083
	6-10 years	3.343±0.629		
	11-15 years	3.517±0.672		
	16-20 years	3.224±0.567		
	>20 years	3.228±0.554		
Total working years	1-5 years	3.390±0.583	0.305	0.875
	6-10 years	3.323±0.648		
	11-15 years	3.382±0.553		
	16-20 years	3.401±0.675		
Average working hours per week	>20 years	3.356±0.632	2.876	0.022
	<30 hours	3.489±0.626		
	30-40 hours	3.461±0.600		
	41-50 hours	3.326±0.589		
	51-60 hours	3.183±0.516		
Team scale	>60 hours	3.304±0.637	0.581	0.677
	<10 people	3.340±0.601		
	10-15 people	3.419±0.625		
	16-20 people	3.380±0.655		
	21-25 people	3.417±0.534		
Hospital scale	>25 people	3.322±0.609	11.110	<0.001
	<600	3.215±0.491		
	600-800	3.275±0.607		
Hospital level	>1400	3.473±0.642	11.110	<0.001
	Primary hospital	3.473±0.642	11.110	<0.001

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
	Secondary hospital	3.215±0.491		
	Tertiary hospital	3.275±0.607		

4.2 Analysis of Work Engagement

The Work Engagement (D) scale has a total of 17 items. The evaluation score range of each item is 1-6 points. The Mean±Standard Deviation of each item ranges from (3.880±1.236) to (4.680±1.222). Items with the relatively low Mean±Standard Deviation range include: (1) item 1 (When I get up in the morning, I feel like going to work) in the range of 3.910±1.358; and (2) item 9 (I get carried away when I am working) in the range of 3.990±1.236. Items with the relatively high Mean±Standard Deviation range include: item 6 (Time flies when I am working) in the range of 4.680±1.222; and item 7 (At my work, I always persevere even when things do not go well) in the range of 4.570±1.161. Other items are shown in Annex B Table b.16.

The analysis results of the Work Engagement show that the statistically significant factors ($P < 0.05$) for Work Engagement are age, the number of school years, marital status, number of children, personnel category, total working years, average working hours per week, hospital scale and hospital level. See Table 4.4.

Table 4.4 One-way analysis of variance in Work Engagement (D)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	4.051±0.919	13.500	<0.001
	31-50 years old	4.328±0.917		
	51-60 years old	4.835±0.757		
Gender	Male	4.268±0.934	0.244	0.621
	Female	4.223±0.929		
Educational level	Vocational school and below	4.390±0.904	1.078	0.344
	Bachelor	4.206±0.956		
	Postgraduate and above	4.291±0.799		
Number of school years	0-12 years	4.696±0.762	9.329	<0.001
	13-17 years	4.151±0.964		
	18 years and above	4.289±0.859		
Marital status	Unmarried, divorced or death of a spouse (single without a partner)	4.045±0.890	12.798	<0.001
	Married or living with a partner (with spouse or partner)	4.336±0.936		
Number of children	0	4.030±0.874	9.724	<0.001
	1	4.323±0.944		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
	2	4.443±0.939		
Years of graduation	<1 year	4.105±0.793	0.541	0.705
	1-3 years	4.225±0.912		
	4-7 years	4.242±0.893		
	8-10 years	4.177±1.037		
	>10 years	4.295±0.965		
Personnel category	Doctors	4.378±0.868	3.995	0.005
	Nurses	4.127±0.947		
	Administrative staff	4.182±0.851		
	Logistics and health support personnel	4.082±1.201		
	Others	4.613±0.744		
Position	Hospital leaders	4.706±1.154	2.173	0.071
	Middle-level hospital managers	4.265±0.873		
	Department manager (director or deputy director)	4.626±0.817		
	Management staff	4.292±0.969		
	Clinical staff	4.189±0.930		
Working years in the current organization	1-5 years	4.212±0.914	1.162	0.326
	6-10 years	4.300±0.949		
	11-15 years	4.364±0.893		
	16-20 years	4.049±1.033		
	>20 years	4.076±0.923		
Total working years	1-5 years	4.079±0.886	5.219	<0.001
	6-10 years	4.113±0.970		
	11-15 years	4.283±0.816		
	16-20 years	4.436±0.976		
	>20 years	4.534±0.929		
Average working hours per week	<30 hours	4.391±0.829	6.754	<0.001
	30-40 hours	4.425±0.844		
	41-50 hours	4.378±0.815		
	51-60 hours	4.082±1.013		
	>60 hours	3.976±1.006		
Team scale	<10 people	4.430±0.887	0.112	0.050
	10-15 people	4.160±0.889		
	16-20 people	4.103±1.061		
	21-25 people	4.135±0.901		
	>25 people	4.312±0.865		
Hospital scale	600	3.719±0.998	38.963	<0.001
	800	4.032±0.812		
	1400	4.532±0.836		
Hospital level	Primary hospital	4.532±0.836	38.963	<0.001
	Secondary hospital	3.719±0.998		
	Tertiary hospital	4.032±0.812		

4.3 Analysis of Organizational Commitment

4.3.1 Organizational Commitment 1 (H)

The Organizational Commitment 1 (H) scale has a total of 9 items. The evaluation score range of each item is 1-5 points. The Mean±Standard Deviation of each item ranges from (3.200±0.970) to (4.140±0.749). The Mean±Standard Deviation range of item 1 (I am willing to put in a great deal of effort beyond what is normally expected in order to help this organization to be successful) is 3.840±0.836; the range of item 2 (I talk up this organization to my friends as a great organization to work for) is 3.590±0.854; the range of item 3 (I would accept almost any types of job assignment in order to keep working on this organization) is 3.200±0.970; the range of item 4 (I find that my values and organization's values are very similar) is 3.560±0.775; the range of item 5 (I am proud to tell others that I am part of this organization) is 3.680±0.814; the range of item 6 (This organization really inspires the very best in me in the way of job performance) is 3.480±0.835; the range of item 7 (I am extremely glad I chose this organization to work for over others I was considering at the time I joined) is 3.570±0.853; the range of item 8 (I really care about the fate of this organization) is 4.140±0.749; the range of item 9 (For me, this is the best of all possible organizations for which to work) is 3.320±0.930, as shown in Annex B Table b.17.

The analysis results of Organizational Commitment 1 show that the factors that are statistically significant for Organizational Commitment 1 ($P < 0.05$) are gender, number of school years, personnel category, position, average working hours per week, hospital scale and hospital level. See Table 4.5.

Table 4.5 One-way analysis of variance in Organizational Commitment 1 (H)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	3.574±0.666	1.923	0.147
	31-50 years old	3.595±0.635		
	51-60 years old	3.813±0.649		
Gender	Male	3.487±0.654	5.431	0.020
	Female	3.635±0.646		
Educational level	Vocational school and below	3.785±0.646	2.591	0.076
	Bachelor	3.594±0.652		
	Postgraduate and above	3.517±0.636		
Number of school years	0-12 years	3.961±0.423	7.457	<0.001
	13-17 years	3.562±0.656		
	18 years and above	3.581±0.662		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Marital status	Unmarried, divorced or death of spouse (single without partner)	3.540±0.660	2.386	0.123
	Married or living with a partner (with spouse or partner)	3.629±0.645		
Number of children	0	3.545±0.651	1.757	0.174
	1	3.604±0.666		
	2	3.681±0.618		
Years of graduation	<1 year	3.631±0.568	0.915	0.455
	1-3 years	3.640±0.668		
	4-7 years	3.647±0.684		
	8-10 years	3.491±0.676		
	>10 years	3.568±0.630		
Personnel category	Doctors	3.474±0.637	3.436	0.009
	Nurses	3.634±0.635		
	Administrative staff	3.614±0.703		
	Logistics and health support personnel	3.703±0.703		
	Others	3.877±0.640		
Position	Hospital leaders	4.511±0.866	3.387	0.009
	Middle-level hospital managers	3.464±0.586		
	Department manager (director or deputy director)	3.546±0.499		
	Management staff	3.715±0.654		
	Clinical staff	3.588±0.656		
Working years in the current organization	1-5 years	3.594±0.636	2.120	0.077
	6-10 years	3.658±0.700		
	11-15 years	3.682±0.673		
	16-20 years	3.374±0.553		
	>20 years	3.461±0.574		
Total working years	1-5 years	3.542±0.621	0.650	0.627
	6-10 years	3.609±0.701		
	11-15 years	3.599±0.653		
	16-20 years	3.659±0.639		
	>20 years	3.649±0.645		
Average working hours per week	<30 hours	3.736±0.674	4.024	0.003
	30-40 hours	3.686±0.654		
	41-50 hours	3.657±0.609		
	51-60 hours	3.330±0.493		
	>60 hours	3.500±0.662		
Team scale	<10 people	3.613±0.673	1.541	0.189
	10-15 people	3.704±0.626		
	16-20 people	3.504±0.663		
	21-25 people	3.554±0.708		
	>25 people	3.600±0.618		
Hospital scale	600	3.351±0.646	22.291	<0.001
	800	3.460±0.568		
	1400	3.760±0.645		
Hospital level	Primary hospital	3.760±0.645	22.291	<0.001

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
	Secondary hospital	3.351±0.646		
	Tertiary hospital	3.460±0.568		

4.3.2 Organizational Commitment 2 (I)

The Organizational Commitment 2 (I) scale has a total of 8 items. Each item's evaluation score ranges from 1-6 points. The Mean±Standard Deviation of each item ranges from (4.000±1.335) to (5.130±0.969). The Mean±Standard Deviation range of item 1 (I'm willing to stand up to protect the reputation of this hospital) is 4.890±1.180; the range of item 2 (I'm willing to assist new colleagues to adjust to the work environment) is 5.130±0.969; the range of item 3 (I am eager to tell outsiders good news about this hospital and clarify their misunderstandings) is 4.930±1.119; the range of item 4 (I'm willing to help colleagues solve work-related problems) is 5.090±1.002; the range of item 5 (I make constructive suggestions that can improve the operation of the hospital) is 4.000±1.335; the range of item 6 (I'm willing to cover work assignments for colleagues when needed) is 4.870±1.061; the range of item 7 (I actively attend hospital meetings) is 4.710±1.260; the range of item 8 (I'm willing to coordinate and communicate with colleagues) is 4.980±1.103, as listed in Annex B Table b.18.

The analysis results of the Organizational Commitment 2 show that the factors that are statistically significant for Organizational Commitment 2 ($P < 0.05$) are age, number of school years, marital status, number of children, years of graduation, position, working years in the current organization, total working years, average working hours per week, team scale, hospital scale and hospital level, as shown in Table 4.6.

Table 4.6 One-way analysis of variance in Organizational Commitment 2 (I)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	4.650±0.894	14.212	<0.001
	31-50 years old	4.925±0.909		
	51-60 years old	5.293±0.663		
Gender	Male	4.710±0.975	2.969	0.085
	Female	4.862±0.880		
Educational level	Vocational school and below	4.867±0.874	0.055	0.946
	Bachelor	4.821±0.906		
	Postgraduate and above	4.820±0.934		
Number of school years	0-12 years	5.230±0.586	10.687	<0.001
	13-17 years	4.756±0.923		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Marital status	18 years and above	4.862±0.913	6.885	0.009
	Unmarried, divorced or death of a spouse (single without a partner)	4.689±0.919		
	Married or living with a partner (with spouse or partner)	4.898±0.892		
Number of children	0	4.654±0.899	6.657	0.001
	1	4.953±0.886		
	2	4.902±0.914		
Years of graduation	<1 year	4.493±0.880	2.945	0.020
	1-3 years	4.778±0.871		
	4-7 years	4.867±0.878		
	8-10 years	4.770±0.884		
	>10 years	4.945±0.943		
Personnel category	Doctors	4.860±0.896	2.434	0.053
	Nurses	4.790±0.915		
	Administrative staff	4.935±0.804		
	Logistics and health support personnel	4.476±1.073		
	Others	5.138±0.729		
Position	Hospital leaders	5.500±0.984	2.924	0.021
	Middle-level hospital managers	5.114±0.866		
	Department manager (director or deputy director)	5.118±0.825		
	Management staff	4.705±0.921		
	Clinical staff	4.785±0.905		
Working years in the current organization	1-5 years	4.743±0.905	2.811	0.025
	6-10 years	4.977±0.829		
	11-15 years	5.010±0.840		
	16-20 years	4.686±0.959		
	>20 years	4.653±1.207		
Total working years	1-5 years	4.619±0.886	5.589	<0.001
	6-10 years	4.771±0.863		
	11-15 years	4.933±0.879		
	16-20 years	5.009±0.935		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Average working hours per week	>20 years	5.088±0.921	10.146	<0.001
	<30 hours	5.017±0.806		
	30-40 hours	4.951±0.795		
	41-50 hours	5.155±0.730		
	51-60 hours	4.575±1.201		
	>60 hours	4.551±0.968		
Team scale	<10 people	4.976±0.834	2.697	0.033
	10-15 people	4.830±0.924		
	16-20 people	4.647±0.985		
	21-25 people	4.681±0.922		
	>25 people	4.922±0.840		
Hospital scale	600	4.327±0.946	34.987	<0.001
	800	4.674±0.918		
	1400	5.091±0.779		
Hospital level	Primary hospital	5.091±0.779	34.987	<0.001
	Secondary hospital	4.327±0.946		
	Tertiary hospital	4.674±0.918		

4.4 Analysis of Turnover Intention

The Turnover Intention (J) scale has a total of 3 items, and the evaluation score range of each item is 1-5 points. The Mean±Standard Deviation of each item ranges from (2.260±0.994) to (2.530±1.030). The Mean±Standard Deviation range of item 1 (I often think of leaving this hospital) is 2.420±0.972; the range of item 2 (It is very possible that I will look for a new job next year) is 2.260±0.994; and the range of item 3 (If I may choose again, I will choose to work for another organization) is 2.530±1.030, as shown in Annex B Table b.19.

The analysis results of the Turnover Intention show that the factors of statistical significance ($P < 0.05$) for Turnover Intention are gender, age, number of school years, number of children, average working hours per week, hospital scale and hospital level. See Table 4.7.

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Table 4.7 One-way analysis of variance in Turnover Intention (J)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	2.515±0.998	6.267	0.003
	31-50 years old	2.349±0.855		
	51-60 years old	2.052±0.667		
Gender	Male	2.537±0.827	4.378	0.037
	Female	2.362±0.944		
Educational level	Vocational school and below	2.217±0.974	1.879	0.158
	Bachelor	2.401±0.937		
	Postgraduate and above	2.527±0.776		
Number of school years	0-12 years	1.946±0.813	7.249	0.001
	13-17 years	2.451±0.959		
	18 years and above	2.429±0.825		
Marital status	Unmarried, divorced or death of spouse (single without partner)	2.508±1.002	3.479	0.063
	Married or living with a partner (with spouse or partner)	2.350±0.866		
Number of children	0	2.510±0.990	5.698	0.004
	1	2.424±0.881		
	2	2.186±0.812		
Years of graduation	<1 year	2.375±0.802	0.740	0.566
	1-3 years	2.391±0.954		
	4-7 years	2.386±1.039		
	8-10 years	2.591±0.990		
	>10 years	2.367±0.807		
Personnel category	Doctors	2.417±0.812	0.904	0.465
	Nurses	2.411±1.018		
	Administrative staff	2.432±0.637		
	Logistics and health support personnel	2.495±1.007		
	Others	2.138±0.789		
Position	Hospital leaders	2.400±0.548	0.617	0.654
	Middle-level hospital managers	2.226±0.650		
	Department manager (director or deputy director)	2.382±0.896		
	Management staff	2.409±0.937		
	Clinical staff	2.421±0.940		
Working years in the current organization	1-5 years	2.423±0.910	1.082	0.365
	6-10 years	2.467±0.954		
	11-15 years	2.208±0.949		
	16-20 years	2.472±0.856		
	>20 years	2.346±0.819		
Total working years	1-5 years	2.493±0.972	1.973	0.097
	6-10 years	2.498±0.918		
	11-15 years	2.358±0.966		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Average working hours per week	16-20 years	2.260±0.870	5.159	<0.001
	>20 years	2.242±0.763		
	<30 hours	2.351±1.086		
	30-40 hours	2.202±0.870		
	41-50 hours	2.380±0.885		
	51-60 hours	2.567±0.952		
	>60 hours	2.601±0.905		
Team scale	<10 people	2.333±0.834	1.616	0.171
	10-15 people	2.270±0.821		
	16-20 people	2.534±0.947		
	21-25 people	2.460±1.037		
Hospital scale	>25 people	2.430±0.962	39.076	<0.001
	600	2.781±0.742		
	800	2.703±1.032		
Hospital level	1400	2.119±0.827	39.076	<0.001
	Primary hospital	2.119±0.827		
	Secondary hospital	2.781±0.742		
	Tertiary hospital	2.703±1.032		

4.5 Evaluation of differences in hospital salary incentives mechanism

To understand the participants' evaluation of the possible differences in the salary incentives mechanism of hospitals that the participants work in, we designed 7 items on this scale. The evaluation score range of each item is 1-4 points. The Mean±Standard Deviation of each item ranges from (2.260±0.994) to (2.530±1.030), as shown in Annex B Table b.20.

The analysis results of this part show that the factors of statistical significance ($P<0.05$) in the evaluation of differences in the hospital salary system are personnel category, position, average working hours per week, and team scale, as shown in Table 4.8.

Table 4.8 One-way analysis of variance in the evaluation of differences in hospital salary system (G)

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Age	30 years old and below	2.566±0.544	0.495	0.610
	31-50 years old	2.598±0.521		
	51-60 years old	2.652±0.578		
Gender	Male	2.561±0.527	0.431	0.512
	Female	2.596±0.537		
Educational level	Vocational school and below	2.627±0.576	1.058	0.348
	Bachelor	2.569±0.525		
	Postgraduate and above	2.655±0.556		
Number of school years	0-12 years	2.615±0.616	1.496	0.225
	13-17 years	2.557±0.519		
	18 years and above	2.642±0.543		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
Marital status	Unmarried, divorced or death of a spouse (single without a partner)	2.544±0.546	1.977	0.160
	Married or living with a partner (with spouse or partner)	2.610±0.528		
Number of children	0	2.568±0.540	0.289	0.749
	1	2.591±0.532		
	2	2.613±0.531		
Years of graduation	<1 year	2.625±0.489	2.241	0.063
	1-3 years	2.609±0.531		
	4-7 years	2.575±0.553		
	8-10 years	2.418±0.526		
	>10 years	2.633±0.532		
Personnel category	Doctors	2.545±0.489	3.321	0.011
	Nurses	2.558±0.545		
	Administrative staff	2.841±0.612		
	Logistics and health support personnel	2.682±0.525		
	Others	2.636±0.496		
	Hospital leaders	3.400±0.658		
Position	Middle-level hospital managers	2.727±0.556	5.152	0.004
	Department manager (director or deputy director)	2.731±0.341		
	Management staff	2.720±0.570		
	Clinical staff	2.539±0.527		
Working years in the current organization	1-5 years	2.578±0.551	0.810	0.519
	6-10 years	2.540±0.524		
	11-15 years	2.643±0.567		
	16-20 years	2.679±0.392		
	>20 years	2.624±0.509		
Total working years	1-5 years	2.585±0.542	0.614	0.653
	6-10 years	2.531±0.511		
	11-15 years	2.611±0.502		
	16-20 years	2.632±0.524		
Average working hours per week	>20 years	2.619±0.592	3.424	0.009
	<30 hours	2.564±0.502		
	30-40 hours	2.683±0.533		
	41-50 hours	2.524±0.485		
	51-60 hours	2.367±0.538		
Team scale	>60 hours	2.559±0.550	5.437	<0.001
	<10 people	22.622±0.568		
	10-15 people	2.695±0.483		
	16-20 people	2.472±0.513		
Hospital scale	21-25 people	2.766±0.502	3.021	0.050
	>25 people	2.509±0.550		
	600	2.545±0.544		
Hospital level	800	2.514±0.493	3.021	0.050
	1400	2.637±0.545		
	Primary hospital	2.637±0.545		

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

Variable	Grouping of variables	$\bar{X} \pm S$	F	P
	Secondary hospital	2.545±0.544		
	Tertiary hospital	2.514±0.493		

4.6 Correlation analysis

4.6.1 Hypotheses

In the part of literature research, this study proposed the following hypotheses concerning the four variables of Perceived Justice, Work Engagement, Organizational Commitment, and Turnover Intention:

- (1) H1: Perceived Justice and Organizational Commitment are positively correlated;
- (2) H2: Perceived Justice and Work Engagement are positively correlated;
- (3) H3: Perceived Justice and Turnover Intention are negatively correlated;
- (4) H4: Organizational Commitment and Turnover Intention are negatively correlated;
- (5) H5: Work Engagement and Turnover Intention are negatively correlated;
- (6) H6: Work Engagement plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention;
- (7) H7: Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention.

In order to test these hypotheses, 7 relationship analysis models were proposed in this study:

- (1) Model 1: the relational model of the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Organizational Commitment.
- (2) Model 2: the relational model of the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Work Engagement.
- (3) Model 3: the relational model of the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Turnover Intention.
- (4) Model 4: the relational model of Perceived Justice, Organizational Commitment and Turnover Intention.
- (5) Model 5: the relational model of Perceived Justice, Work Engagement and Turnover Intention.
- (6) Model 6: the relational model of the indirect effect of Perceived Justice on Turnover Intention through Organizational Commitment.
- (7) Model 7: the relational model of the indirect effect of Perceived Justice on Turnover Intention through Work Engagement.

4.6.2 Relations among the three variables of Perceived Justice (Distributive Justice, Procedural Justice, Interactional Justice), Organizational Commitment, Work Engagement and Turnover Intention

Correlation analysis is a statistical method that is used to discover if there is a relationship between two variables, and the direction and strength of the relationship may be (Guan, 2011). It is a tool for evaluating the extent to which two variables are linearly related, with a higher absolute value of the correlation coefficient indicating a stronger relationship (Liu, 2004).

This research adopted correlation analysis to evaluate the relations among Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice), Organizational Commitment, Work Engagement and Turnover Intention.

4.6.2.1 Model 1: the relational model of the three variables of Perceived Justice (Distributive Justice, Interactional Justice, Procedural Justice) and Organizational Commitment

This research analyzed the relation between the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Organizational Commitment. Results show that:

(1) Perceived Justice is positively correlated with Organizational Commitment, and the correlation coefficient is 0.585 ($P < 0.01$).

(2) The three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) are positively correlated with Organizational Commitment 1. The correlation coefficients between the three variables (Procedural Justice, Interactional Justice, and Distributive Justice) and Organizational Commitment 1 are respectively 0.668, 0.507, and 0.475 ($P < 0.05$). Among them, Procedural Justice has the strongest correlation with Organizational Commitment 1, followed by Interactional Justice and Distributive Justice, as shown in Annex B Table b.21.

(3) The three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) are positively correlated with Organizational Commitment 2. The correlation coefficients between the three variables (Procedural Justice, Interactional Justice, and Distributive Justice) and Organizational Commitment 2 are respectively 0.434, 0.406, 0.218 ($P < 0.05$). Among them, Procedural Justice has the strongest correlation with Organizational Commitment 2, followed by Interactional Justice and Distributive Justice, as shown in Annex B Table b.21.

In summary, the three variables of Perceived Justice (Procedural Justice, Interactional Justice, and Distributive Justice) are positively correlated with Organizational Commitment. The rank of correlation in a descending order is Procedural Justice, Interactional Justice and Distributive Justice.

4.6.2.2 Model 2: the relational model of the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Work Engagement

This research analyzed the relation between the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Work Engagement. Results show that:

(1) Perceived Justice is positively correlated with Work Engagement, and the correlation coefficient is 0.484 ($P < 0.01$).

(2) The three variables of Perceived Justice (Procedural Justice, Interactional Justice, and Distributive Justice) are positively correlated with Work Engagement, and the correlation coefficients are respectively 0.452, 0.460, and 0.318 ($P < 0.05$). Among them, Interactional Justice has the strongest correlation with Work Engagement, followed by Procedural Justice and Distributive Justice, as shown in Annex B Table b.22.

4.6.2.3 Model 3: the relational model of between the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Turnover Intention

This research analyzed the relation between the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Turnover Intention. Results show that:

(1) Perceived Justice is negatively correlated with Turnover Intention, and the correlation coefficient is -0.585 ($P < 0.01$).

(2) The three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) are negatively correlated with Turnover Intention, and the correlation coefficients are respectively -0.484, -0.445, and -0.546 ($P < 0.05$). Among them, Procedural Justice has the strongest correlation with Turnover Intention, followed by Interactional Justice and Distributive Justice, as shown in Annex B Table b.23.

4.6.3 Relations among Perceived Justice, Organizational Commitment, Work Engagement and Turnover Intention

Structural Equation Modeling (SEM) is an analysis method that can make up for the shortcomings of traditional statistical methods. It can be used to analyze latent variables and deal with the relationships among multiple causes and results. It is an important tool for multivariate data analysis and bears the characteristic of theoretical a priori. Based on the specific theory, SEM is a statistical method that can be adopted to explore the internal relationship between measurement indicators and latent variables in a hypothetical model (Wu, 2010).

In this research, AMOS.21 was adopted to analyze relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers. Drawing on the views of relevant scholars (Browne & Cudeck, 1989; Hoelter, 1983), this study used such indicators as χ^2/df value, GFI, RMSEA, CFI, and NFI to verify the overall fitness of the models. Based on relevant literature (Fang et al., 2018; Xu & Gao, 2011; Song et al., 2013) for reference, models were modified according to the result of the modified index (MI).

In the relationship analysis, the direct effect is that the value is equal to the standardized path coefficient; the indirect effect is the product of the standardized path coefficients between the corresponding variables; the total effect is the sum of direct and indirect effects (Han, 2020).

In the path diagram, ellipses represent latent variables, which cannot be observed directly and therefore cannot be measured directly either; boxes represent measurable variables, which can usually be obtained by direct observation and measurement; a single arrow indicates the direct path relationship between two variables; the measurement error is represented by a circle.

4.6.3.1 Model 4: the relation among Perceived Justice, Organizational Commitment and Turnover Intention

This study constructed the initial model by SEM, and the analysis results are shown in Annex B Table b.24. Although all paths in the initial equation model are statistically significant, some fitting indicators have not yet reached the acceptable fitting standard. In order to improve the adaptability of the initial model, further correction of the initial equation model is needed. According to the MI results, we find that the MI values of the e1-e2 are the greatest, so we choose the relevant path for fitting correction. After fitting correction, the modified fitting indexes, namely χ^2/df value, CFI, NFI, TLI, RESEA, GFI, AGFI and SRMR, are all within a

reasonable range, indicating that the model attains an overall good level of fitness. The final equation model diagram is shown in Figure 4.1.

The output of the path between variables is shown in Table 4.9. Results show that it follows the principle of parameter estimation proposed by Bagozzi and Yi (1988), proving that the variables in the model can interpret the model efficiently.

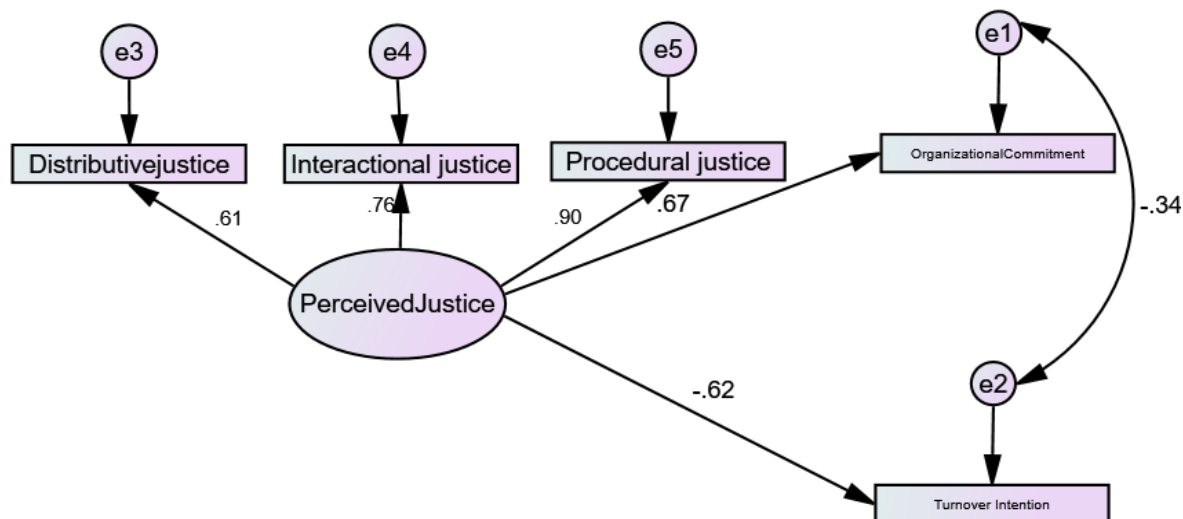


Figure 4.1 Final equation model diagram of Model 4

Table 4.9 Path analysis result of Model 4

Path	Non-standardized estimate	Standardized estimate	Standard error	Critical value	P-value
Organizational Commitment <- Perceived Justice	1.136	0.666	0.089	12.781	***
Turnover Intention <- Perceived Justice	-1.418	-0.621	0.117	-12.11	***

Notes: *** means $P < 0.001$, ** means $P < 0.01$, * means $P < 0.05$

The effect relationship of Perceived Justice on Organizational Commitment and Turnover Intention of medical workers are analyzed, and the specific standardized effect values are shown in Table 4.10. The result shows that Perceived Justice has a positive effect on Organizational Commitment, with an effect value of 0.666; while it has a negative effect on Turnover Intention, with an effect value of -0.621. The absolute effect value of Perceived Justice on Organizational Commitment is greater than on Turnover Intention.

Table 4.10 Effect relationship among variables in Model 4

Path	Direct effect	Indirect effect	Total effect
Organizational Commitment <- Perceived Justice	0.666	—	0.666
Turnover Intention <- Perceived Justice	-0.621	—	-0.621

4.6.3.2 Model 5: the relation among Perceived Justice, Work Engagement and Turnover Intention

The research constructed the initial model by SEM, and the results of Model 5 analysis are shown in Annex B Table b.25. Although all paths in the initial equation model are statistically significant, some fitting indicators have not yet reached the acceptable fitting standard. In order to improve the adaptability of the initial model, further correction of the initial equation model is needed. According to the MI results, the MI of the e4-e5 is relatively the greatest, so we choose the relevant path for model correction fitting. After fitting correction, the modified indicators are all within a reasonable range, indicating that the model attains an overall good level of fitness. The final equation model diagram is shown in Figure 4.2.

The output of the path between variables is shown in Table 4.11. Results show that it follows the principle of parameter estimation proposed by Bagozzi and Yi (1988), proving that the variables in the model can interpret the model efficiently.

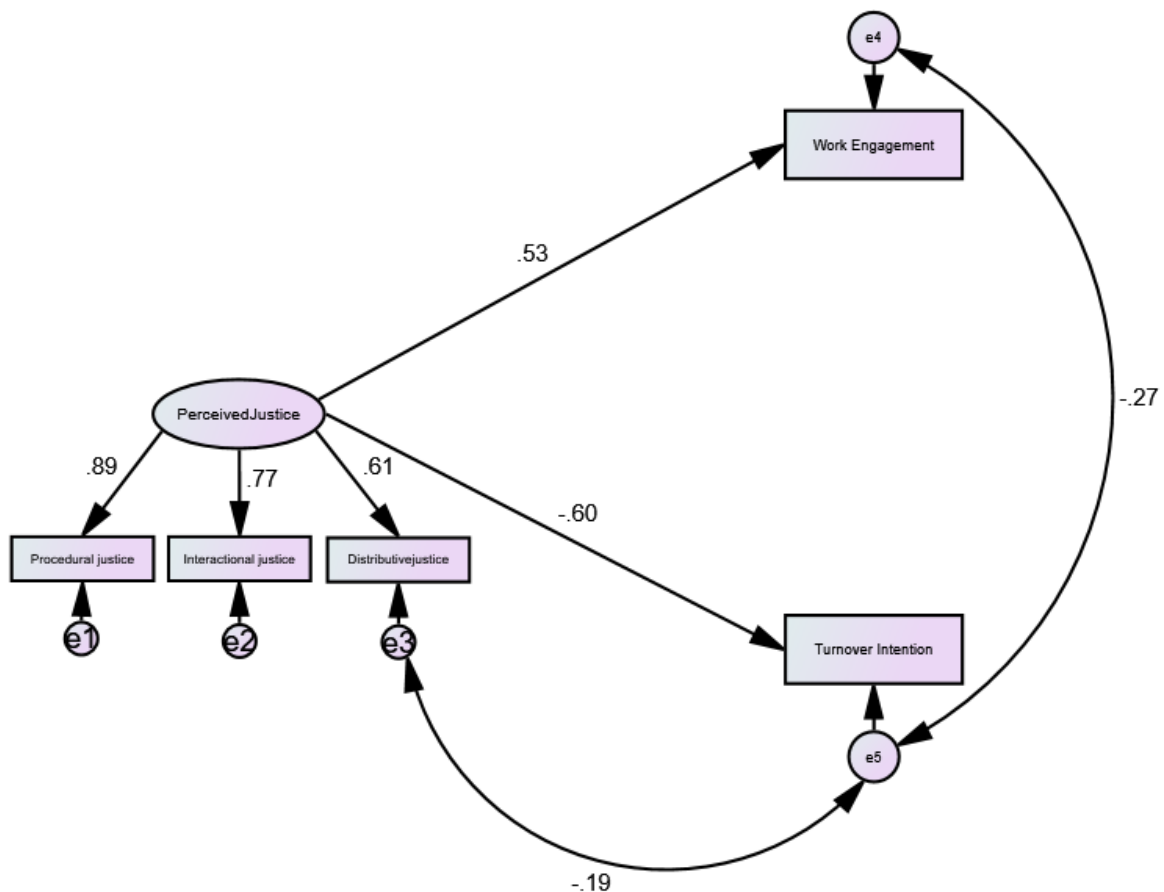


Figure 4.2 Final equation model of Model 5

Table 4.11 Path analysis result of Model 5

Path	Non-standardized estimate coefficient	Standardized estimate coefficient	Standard error	Critical value	P value
Work Engagement <- Perceived Justice	0.913	0.534	0.074	12.293	***
Turnover Intention <- Perceived Justice	-1.021	-0.604	0.073	-13.961	***

Notes: *** means $P < 0.001$, ** means $P < 0.01$, * means $P < 0.05$

The effect relationship of Perceived Justice on Work Engagement and Turnover Intention of medical workers are analyzed, and the specific standardized effect values are shown in Table 4.12. Results show that Perceived Justice has a positive effect on Work Engagement, with an effect value of 0.534; while it has a negative effect on Turnover Intention, with an effect value of -0.604. The absolute effect value of Perceived Justice on Turnover Intention is greater than on Work Engagement.

Table 4.12 Effect relationship among variables in Model 5

Path	Direct effect	Indirect effect	Total effect
Work Engagement <- Perceived Justice	0.534	—	0.534
Turnover Intention <- Perceived Justice	-0.604	—	-0.604

4.6.3.3 Model 6: the relation of the indirect effect of Perceived Justice on Turnover Intention through Organizational Commitment.

The research constructed the initial model by SEM, and the results of Model 6 analysis are shown in Annex B Table b.26. All paths in the initial equation model are statistically significant, and the fitting indicators, namely χ^2/df value, CFI, NFI, TLI, RESEA, GFI, AGFI and SRMR, are within a reasonable range, showing that the model maintains a good level of fitness. The final equation model diagram of Model 6 is shown in Figure 4.3.

The output of the path between variables is shown in Table 4.13. The results show that the variables can interpret the model efficiently. Results show that it follows the principle of parameter estimation proposed by Bagozzi and Yi (1988), proving that the variables in the model can interpret the model efficiently.

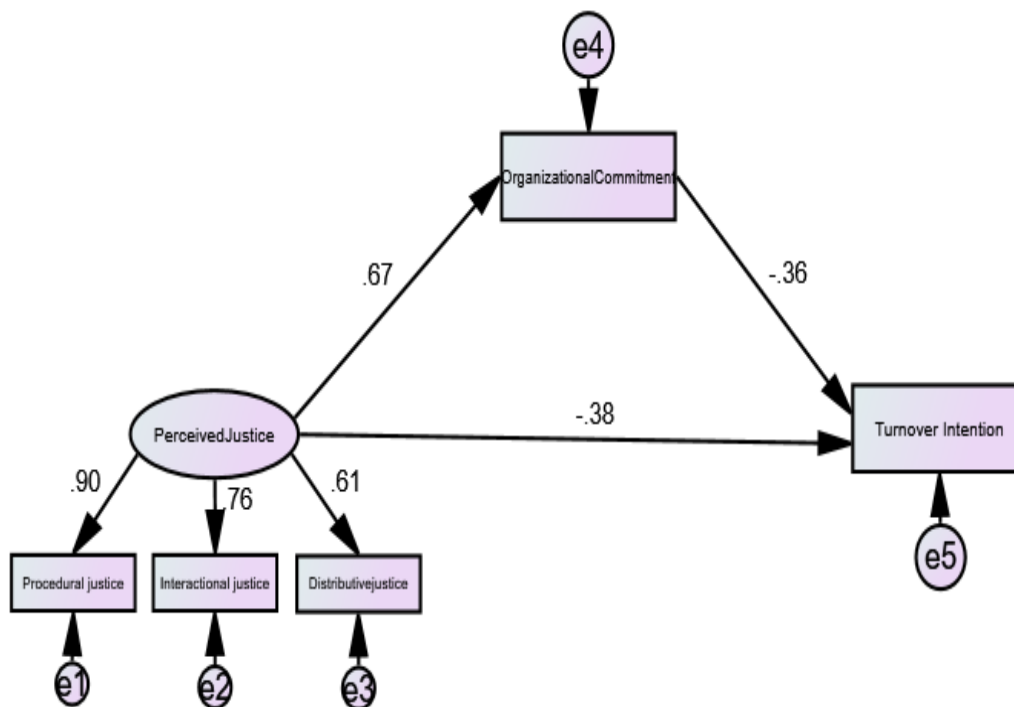


Figure 4.3 Final equation model of Model 6

Table 4.13 Path analysis result of Model 6

Path	Non-standardized estimate coefficient	Standardized estimate coefficient	Standard error	Critical value	<i>P value</i>
Organizational Commitment <- Perceived Justice	0.829	0.666	0.051	16.362	***
Turnover Intention <- Perceived Justice	-0.634	-0.381	0.085	-7.476	***
Turnover Intention <- Organizational Commitment	-0.483	-0.361	0.062	-7.858	***

Notes: *** means $P < 0.001$, ** means $P < 0.01$, * means $P < 0.05$

The effect relationship of Perceived Justice’s indirect effect on Turnover Intention through Organizational Commitment of medical workers is analyzed. The specific standardized effect values are shown in Table 4.14. Results show that Perceived Justice has a positive direct effect on Organizational Commitment, with an effect value of 0.666; while it has a negative direct and indirect effect on Turnover Intention, with a direct effect value of -0.381 and an indirect effect value of -0.241. Turnover Intention has a negative direct effect on Organizational Commitment, with an effect value of -0.361.

Table 4.14 Effect relationship among variables in Model 6

Path	Direct effect	Indirect effect	Total effect
Organizational Commitment <- Perceived Justice	0.666	—	0.666
Turnover Intention <- Perceived Justice	-0.381	-0.241	-0.622
Turnover Intention <- Organizational Commitment	-0.361	—	-0.361

In order to verify the results of the relationship among Perceived Justice, Organizational Commitment and Turnover Intention, this study uses Perceived Justice, Organizational Commitment as independent variables and Turnover Intention as dependent variable to conduct multiple linear regression analysis. The results show that Perceived Justice ($\beta = -0.295$, $P < 0.001$) and Organizational Commitment ($\beta = -0.504$, $P < 0.001$) have a statistically significant impact on turnover intention, that is, the lower the Perceived Justice and Organizational Commitment, the higher the Turnover Intention, as shown in Table 4.15.

Table 4.15 Multivariate linear regression result of Perceived Justice, Organizational Commitment and Turnover Intention

Variable	β	Model	
		<i>t</i> value	<i>P</i> value
Perceived Justice	-0.295	-8.744	< 0.001
Organizational Commitment	-0.504	-14.942	< 0.001
R^2		0.453	
<i>P</i>		< 0.001	

4.6.3.4 Model 7: the relation of the indirect effect of Perceived Justice on Turnover Intention through Work Engagement

The research constructed the initial model by SEM, and the results of Model 6 analysis are shown in Annex B Table b.27. All paths in the initial equation model are statistically significant, and the fitting indicators, namely χ^2/df value, CFI, NFI, TLI, RESEA, GFI, AGFI and SRMR, are within a reasonable range, showing that the model maintains a good level of fitness. The final equation model diagram of Model 7 is shown in Figure 4.4.

The output of the path between variables is shown in Table 4.16. Results show that it follows the principle of parameter estimation proposed by Bagozzi and Yi (1988), proving that the variables in the model can interpret the model efficiently.

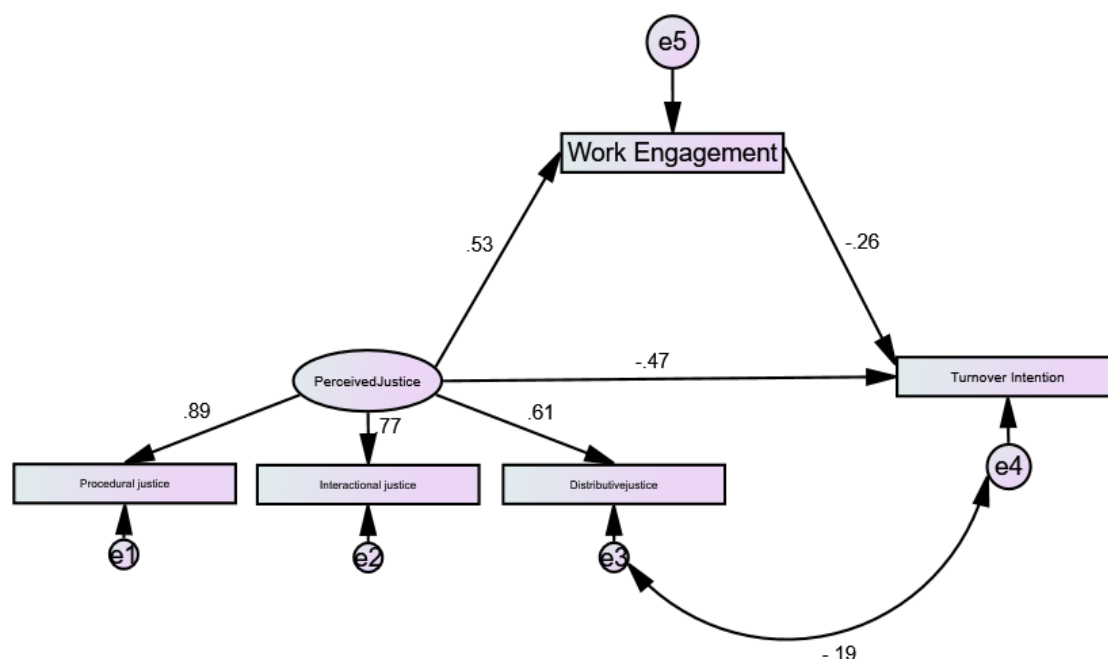


Figure 4.4 Final equation model of Model 7

Table 4.16 An analysis of the relationship between Perceived Justice and Turnover Intention through Work Engagement

Path	Non-standardized estimate	Standardized coefficient	Standard error	Critical value	<i>P</i> value
Work Engagement <- Perceived Justice	0.913	0.534	0.074	12.293	***
Turnover Intention <- Perceived Justice	-0.790	-0.467	0.081	-9.811	***
Turnover Intention <- Work Engagement	-0.253	-0.256	0.04	-6.387	***

Notes: *** means $P < 0.001$, ** means $P < 0.01$, * means $P < 0.05$

The effect relationship of Perceived Justice's indirect effect on Turnover Intention through Work Engagement of medical workers is analyzed, and the specific standardized effect values are shown in Table 4.17. Results show that Perceived Justice has a positive effect on Work Engagement, with an effect value of 0.534; while it has a negative direct and indirect effect on Turnover Intention, with a direct effect value of -0.467 and an indirect effect value of -0.137. Turnover Intention has a negative direct effect on Work Engagement, with an effect value of -0.256.

Table 4.17 Effect relation of Perceived Justice's indirect effect on Turnover Intention through Work Engagement

Path	Direct effect	Indirect effect	Total effect
Work Engagement <- Perceived Justice	0.534	—	0.534
Turnover Intention <- Perceived Justice	-0.467	-0.137	-0.604
Turnover Intention <- Work Engagement	-0.256	—	-0.256

In order to verify the results of the relation between Perceived Justice, Work Engagement and Turnover Intention, this study uses Perceived Justice, Work Engagement as independent variables and Turnover Intention as dependent variable to conduct multiple linear regression analysis. The results show that the influence of Perceived Justice ($\beta = -0.360$, $P < 0.001$) and Work Engagement ($\beta = -0.390$, $P < 0.001$) on Turnover Intention is statistically significant, that is, the lower the Perceived Justice and Work Engagement, the higher the Turnover Intention, as shown in Table 4.18.

Table 4.18 Multivariate linear regression result of Perceived Justice, Work Engagement and Turnover Intention

Variable	Model		
	β	<i>t</i> value	<i>P</i> value
Perceived Justice	-0.360	-10.149	< 0.001
Work Engagement	-0.390	-11.013	< 0.001
R^2		0.371	
<i>P</i>		< 0.001	

4.6.3.5 The mediating effect of Work Engagement and Organizational Commitment on the relation between Perceived Justice and Turnover Intention

In order to verify the mediating effect of Work Engagement and Organizational Commitment in the relation between Perceived Justice and Turnover Intention, this study uses the process program in SPSS to analyze the double mediating effect, as shown in Table 4.19.

The results show that Perceived Justice has a significant impact on Turnover Intention, Organizational Commitment and Work Engagement. After introducing the variables of Organizational Commitment and Work Engagement, it is found that Perceived Justice and Organizational Commitment still have a significant impact on Turnover Intention, while Work Engagement has no significant impact on Turnover Intention, and the regression coefficient of Perceived Justice changes from -0.585 to -0.331, indicating that Organizational Commitment has a partial mediating role between Perceived Justice and Turnover Intention, Work Engagement has no mediating effect between Perceived Justice and Turnover Intention.

In addition, the Bootstrap results (Table 4.20) show that the Bootstrap confidence interval of “Perceived Justice→Organizational Commitment→Turnover Intention” path does not contain 0, which is statistically significant. The boot confidence interval of the “Perceived Justice→Work Engagement→Turnover Intention” path contains 0, which is not statistically significant. This also proves that Work Engagement has no mediating effect between Perceived Justice and Turnover Intention, while Organizational Commitment has mediating effect

between Perceived Justice and Turnover Intention.

Table 4.19 Mediating effect of Work Engagement and Organizational Commitment on the relationship between Perceived Justice and Turnover Intention

Variable	Organizational Commitment			Work Engagement			Turnover Intention			Turnover Intention		
	β	<i>t</i>	<i>P</i>	β	<i>t</i>	<i>P</i>	β	<i>t</i>	<i>P</i>	β	<i>t</i>	<i>P</i>
Perceived Justice	0.585	17.066	<0.001	0.498	13.092	<0.001	-0.585	-17.071	<0.001	-0.331	-8.606	<0.001
Organizational Commitment										-0.354	-7.531	<0.001
Work Engagement										-0.093	-1.396	0.037
<i>R</i> ²		0.343			0.235			0.343			0.460	
<i>P</i>		<0.001			<0.001			<0.001			<0.001	

Table 4.20 Bootstrap mediating effect test of mediating model

Variable	Effect value	Boot standard error	Upper limit of Boot CI	Lower limit of Boot CI
Total effect	-1.006	0.059	-1.121	-0.890
Indirect effect	-0.433	0.047	-0.530	-0.342
Organizational Commitment effect	-0.356	0.062	-0.478	-0.240
Work Engagement effect	-0.077	0.042	-0.163	0.001
Direct effect	-0.572	0.067	-0.703	-0.442

In order to verify the results of the relation among Perceived Justice, Organizational Commitment, Work Engagement and Turnover Intention, this study takes Perceived Justice, Organizational Commitment and Work Engagement as independent variables and Turnover Intention as dependent variable to conduct multiple linear regression analysis.

The results show that the effects of Perceived Justice ($\beta = -0.572$, $P < 0.001$), Organizational Commitment ($\beta = -0.474$, $P < 0.001$) on Turnover Intention were statistically significant, but the effect of Work Engagement on Turnover Intention was not statistically significant ($\beta = 0.092$, $P = 0.037$), see Table 4.21.

Table 4.21 The multivariate linear regression result of Perceived Justice, Organizational Commitment, Work Engagement and Turnover Intention

Variable	Model		
	β	t value	P value
Perceived Justice	-0.572	-8.606	<0.001
Organizational Commitment	-0.474	-7.396	<0.001
Work Engagement	-0.092	-2.093	0.037
R ²		0.461	
P		<0.001	

4.6.4 The relation of all variables

This research analyzed the relation between all variables, as shown in Table 4.22. Results show there's a correlation between all the variables.

Table 4.22 Relation between all variables

Variable	Distributive justice	Interactional justice	Procedural justice	Work Engagement	Organizational Commitment	Turnover Intention
Distributive justice	1					
Interactional justice	0.457**	1				
Procedural justice	0.545**	0.684**	1			
Work Engagement	0.318**	0.460**	0.452**	1		
Organizational Commitment	0.374**	0.506**	0.605**	0.707**	1	
Turnover Intention	-0.484**	-0.445**	-0.546**	-0.505**	-0.615**	1

Notes: ** means $P < 0.01$.

4.6.5 Verification results

Through the analysis of Model 1-3, it can be concluded that Perceived Justice is positively correlated with Organizational Commitment, Work Engagement and Turnover Intention. Among them, different variables of Perceived Justice have different degrees of correlation with

Organizational Commitment, Work Engagement and Turnover Intention.

By integrating Model 4, Model 6, multiple linear regression analysis and mediating effect analysis, we can see that Perceived Justice and Organizational Commitment have a negative correlation with Turnover Intention, and Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention.

Through the results of Model 5, Model 7, multiple linear regression analysis and mediating effect analysis, we can see that Perceived Justice and Work Engagement have negative correlation with Turnover Intention, but Work Engagement does not play a mediating role between Perceived Justice and Turnover Intention.

Combined with the above analysis results, six hypotheses have passed the model verification, and one hypothesis has not passed the verification, as shown in Table 4.23.

Table 4.23 Verification results of the hypotheses

Hypotheses	Established or not
H1: Perceived Justice and Organizational Commitment are positively correlated;	Established
H2: Perceived Justice and Work Engagement are positively correlated;	Established
H3: Perceived Justice and Turnover Intention are negatively correlated;	Established
H4: Organizational Commitment and Turnover Intention are negatively correlated;	Established
H5: Work Engagement and Turnover Intention are negatively correlated;	Established
H6: Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention;	Established
H7: Work Engagement plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention.	Not Established

Chapter 5: Discussion

5.1 Discussion on the results of Perceived Justice analysis

The three dimensions of Perceived Justice are Distributive Justice, Interactional Justice and Procedural Justice. The results show that the influential factors of Distributive Justice include gender, marital status, education level, number of school years, personnel category, position, average working hours per week, team scale, hospital scale and hospital level. The factors influencing Interactional Justice are gender, number of school years, years of graduation, personnel category, working years in the institution, hospital scale and hospital level. As for Procedural Justice, its influential factors include gender, number of school years, personnel category, average working hours per week, hospital scale and hospital level. Through the analysis of the three dimensions of Perceived Justice (Distributive Justice, Procedural Justice and Interactional Justice), it is found that the common factors affecting Perceived Justice (Distributive Justice, Procedural Justice and Interactional Justice) are gender, number of school years, personnel category, hospital scale and hospital level.

This indicates that there is a difference in the perception of Perceived Justice between male and female medical workers. The number of school years of medical workers also represents their education levels to a certain extent. In real life, educational qualification also influences one's pay packet. In hospitals, different personnel categories represent different positions, such as doctors, nurses and administrators. People in different positions undertake different work and they also get different salaries. If people taking on the same work in the same position are paid differently, their sense of Perceived Justice will be affected. This implies that hospitals can take into account different characteristics and needs of medical workers, and classify different Perceived Justice when developing their pay system, so as to improve the motivation of medical workers as well as their sense of belonging and loyalty to the hospitals. In addition, the scale and level of a hospital may also impact its overall income, thus affecting the Perceived Justice of medical workers.

5.2 Discussion on the results of Work Engagement analysis

The results show that the influential factors of Work Engagement are age, number of school years, marital status, number of children, personnel category, total working years, average working hours per week, hospital scale and hospital level.

Age and total working years affect the Work Engagement of medical works. For one thing, with the increase of age and length of service, work compensation and satisfaction will also improve, thus affecting the level of Work Engagement. For another, the elderly medical works have accumulated more successful experiences at work, so they may have different understandings and feelings of their work, and their ability to deal with work and life issues may also be different, which may affect their emotions towards work, and then have an impact on their Work Engagement.

Marital status and number of children may also affect the energy distribution between work and life for medical workers, which may also affect their Work Engagement. Married medical workers have family responsibilities and the more support they receive from their families, the more engaged they are in their work; but when pressures between work and family are conflicting, it is difficult for them to balance one role with the other, which may lead to burnout; while work and family support can increase Work Engagement and then reduce burnout. The scale and level of a hospital may bring different work experiences to medical workers. Medical workers in larger and higher-level hospitals face more diverse and challenging work, but they may also embrace more salary and promotion opportunities correspondingly, which may affect their Work Engagement.

5.3 Discussion on the results of Organizational Commitment analysis

The results reveal that the factors influencing Organizational Commitment include gender, age, marital status, number of children, number of school years, years of graduation, personnel category, position, working years in the current organization, total working years, average working hours per week, hospital scale and hospital level.

Gender can affect the level of Organizational Commitment, which is consistent with the research findings of Ma (2006). It may be because in the current society, female medical workers have a higher entry threshold than male medical workers to obtain the same job as male medical workers, so they have to overcome more obstacles to reach their positions, which means men and women have different Organizational Commitment. Age can affect the level of

Organizational Commitment, probably because medical workers of different ages may differ on the pursuit of stable life and perceptions and feelings towards the organization. Different marital statuses can also affect the level of Organizational Commitment, perhaps because married medical workers have their family burdens, role-playing conflicts, high social expectations, financial burdens and the desire for a stable job, which can easily affect their level of Organizational Commitment to the organization.

Years of graduation, working years in the current organization, and total working years affect the level of Organizational Commitment. The possible reason is that the newly graduated or employed medical workers are full of aspirations for their work and the hospital, but over time, the hard work and frustration may demotivate them, thus causing a decline in their Organizational Commitment. On the contrary, medical workers who have graduated and worked for a long time may have improved their skill levels, welfare benefits and personal growth values, so they have a greater sense of accomplishment and satisfaction, or have gradually established their professional status in their hospitals or even become the backbone of their field. All these factors may lead to an increase in their level of Organizational Commitment. In addition, the length of working years may also affect medical workers' understanding of and adaptation to the hospitals, thus impacting their emotions and sense of belonging to their hospitals.

Medical workers in different positions have different responsibilities towards the hospital, which may affect their views on the hospital and their autonomy in work, thereby affecting their Organizational Commitment to the hospital, such as their emotions. The scale and level of hospitals in which medical workers work affect their Organizational Commitment. The possible reason is that larger and higher-level hospitals have relatively more patients, which brings better economic benefits. Medical workers in these hospitals psychologically feel that they are in higher social status with more economic income and better welfare. It will be at a great price to leave their job and it is also difficult to find a better unit, which all affect their level of Organizational Commitment and stability.

5.4 Discussion on the results of Turnover Intention analysis

It is shown that the influential factors of Turnover Intention include gender, age, number of school years, number of children, average working hours per week, the scale and level of the hospital.

Factors such as gender, age and number of children may affect medical workers in their

energy distribution as well as stability of life and work, thereby impacting their Turnover Intention. Gender and age may affect the Turnover Intention of medical workers by influencing their Organizational Commitment. In the early stage of working in hospitals, medical workers are prone to higher expectations of their jobs, which may easily lead to a sense of occupational imbalance. Younger medical workers are more likely to be on the rise in their careers, so they will be more eager to find opportunities for career development, which may affect their career stability. But their physical strength and energy will decline as they grow older, so their opportunities to find a better job will decrease correspondingly, which leads to an increase in their Organizational Commitment. Finally, they may be more likely to have a specific emotional dependence on the organization and thus their Turnover Intention will decrease.

The average working hours per week directly influence the psychological stress and physical fatigue of medical workers, and may even affect their attitude towards their work. When working hours do not match their actual salaries, they may feel unfair and have an intention to leave the job.

The scale and level of hospitals may affect the working conditions, work style, work stress, workload, promotion and development opportunities of medical workers, which may determine whether they will have the idea of leaving.

5.5 Discussion on the verification results of research hypotheses

5.5.1 There is a positive correlation between Perceived Justice and Organizational Commitment

The results of Model 1 research show that there is a positive correlation between Perceived Justice and Organizational Commitment, indicating that if medical workers believe that their input-outcome ratio is equal to that of other people they compare with themselves, there exists a state of equity, which can improve their satisfaction with work, loyalty and Organizational Commitment. As a result, they will display some extra role behavior to repay the organization and will be more willing to assume more responsibilities.

5.5.2 There is a positive correlation between Perceived Justice and Work Engagement.

Model 2 research results show that there is a positive correlation between Perceived Justice and Work Engagement, which indicates that the stronger the sense of Perceived Justice of medical workers is, the greater their engagement in work will be. It is a predictive factor of medical

workers' Work Engagement and behavior, including their mobility, attendance and absence, and work practices. When medical workers think they are treated unfairly, they will change their engagement, that is to reduce their efforts to work so as to seek a psychological balance. When the hospital can make the medical workers feel a higher level of Perceived Justice, the more likely it will be to trigger positive psychology and behavior of medical workers, which means they will work with a good mood and positive state. Therefore, they will be more willing to devote themselves to work and to create more value for the development of the hospital with a greater sense of responsibility for the organization.

5.5.3 There is a negative correlation between Perceived Justice and Turnover Intention

Model 3 research results show that there is a negative correlation between Perceived Justice and Turnover Intention, which indicates that the stronger their sense of Perceived Justice is, the lower their turnover intention will be, and vice versa.

Medical workers are sensitive to Perceived Justice. The stronger their sense of Perceived Justice, the more likely they may be motivated to have more passion for their work, improve their working competence and efficiency, and enhance their job performance; when they feel unfair, or there is a big discrepancy and unfair treatment in their sense of Perceived Justice, they may have an intention to leave or withdraw, or may even directly leave the original organization. This reveals that when medical institutions consider how to attract and retain talents, they can seek countermeasures from the perspective of Perceived Justice, which helps reduce the Turnover Intention of medical workers.

5.5.4 There is a negative correlation between Organizational Commitment and Turnover Intention

Model 6 research results show that there is a negative correlation between Organizational Commitment and Turnover Intention, indicating that when medical workers have higher Organizational Commitment, they tend to be more satisfied with their work and want to stay longer in their positions, and the Turnover Intention tends to be lower.

When medical workers have a stronger sense of belonging, emotional attachment and organizational pride, their Organizational Commitment will improve while their Turnover Intention will decrease. For example, when medical workers witness their patients recovering through their efforts, they will feel that their work is meaningful and their profession is noble so that their sense of professional identity will be enhanced, which will lead to a high level of

Organizational Commitment and thus prompt them to work harder. In addition, if medical workers believe that they have responsibilities and obligations to their work and should be loyal to this profession, or they are influenced more by social norms and duties, they will show a lower level of Turnover Intention.

5.5.5 There is a negative correlation between Work Engagement and Turnover Intention.

Research results of Model 7 show that there is a negative correlation between Work Engagement and Turnover Intention, that is, the lower the Work Engagement is, the higher the Turnover Intention will be.

The level of Work Engagement of medical workers is a reflection of their work motivation and initiative, and is a comprehensive indicator of their work vitality, contribution and concentration. When Work Engagement is a positive subjective variable, medical workers will have a better mental state at work and will be more likely to have a sense of satisfaction and belonging, which will strengthen their connection to hospitals. In this way, they will be more actively engaged in their work, thus effectively reducing turnover behavior. At the same time, a higher level of Work Engagement of medical workers will help improve the operational efficiency of hospitals and achieve hospital benefits. However, when medical workers are less committed to their jobs, they may be more likely to lack enthusiasm for work, or may even be unwilling to do more for their jobs, which may trigger their Turnover Intention. This encourages hospital managers to pay more attention to the working status of medical workers and show concern for those with negative working status, in order to improve their enthusiasm and Work Engagement, and decrease their Turnover Intention.

5.5.6 Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention

The research results of Model 4 and Model 6, multiple linear regression analysis and mediating effect analysis indicate that Organizational Commitment plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention, that is, medical workers' sense of Perceived Justice can affect their Organizational Commitment to the hospital and thus influence their Turnover Intention.

Medical workers' sense of Perceived Justice can contribute to their Organizational Commitment and loyalty. When they are satisfied with Perceived Justice, they will think that their work has been recognized, and thus their Organizational Commitment will be strengthened,

which will weaken their Turnover Intention and reduce their turnover behaviors. The employees with high level of Organizational Commitment have a very strong sense of identity and belonging to the organization. The stronger their sense of belonging is, the more they tend to use different external performances to express their strong sense of belonging and loyalty. Besides, they will be more likely to consider the gains and losses of the organization as their own and recognize their hospital more, and are more engaged in their work. When they show a higher level of Organizational Commitment, their intention and possibility of turnover are small, which plays an important role in retaining talents and stabilizing the team for hospitals.

5.5.7 Work engagement plays a mediating role in the negative correlation between Perceived Justice and Turnover Intention

The research results of Model 5, Model 7, multiple linear regression analysis and mediating effect analysis show that Perceived Justice and Work Engagement have negative correlation with Turnover Intention, and Work Engagement does not play a mediating role in the negative correlation between Perceived Justice and Turnover Intention.

Medical workers' sense of Perceived Justice will directly or indirectly affect their Turnover Intention. The Work Engagement of medical workers refers to the positive emotional experience of medical workers in the face of work. The results show that Work Engagement does not play a mediating role between Perceived Justice and Turnover Intention, which is probably due to the fact that medical workers in the medical industry have long training period, high occupational risk, great technical difficulty and heavy responsibility. When they become medical workers, they shoulder the important responsibility of saving lives and protecting people's health, as well as the major mission of implementing the Healthy China strategy, this sense of mission and responsibility may affect their Work Engagement to a greater extent. In contrast, the effects of Perceived Justice and Turnover Intention can not be clearly shown.

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Chapter 6: Conclusions and Suggestions

6.1 Conclusions

In this research, the researcher investigated hospitals of different grades in Shenzhen to understand the status quo of Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers, and explore the relationship among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers based on correlation analysis and SEM, so as to propose targeted policy suggestions, and eventually improve the medical workers' sense of identity, belonging and loyalty to the hospital as well as strengthen the core competitiveness of the hospital.

6.2 Theoretical contribution

Contribution 1: this research has enriched relevant theoretical research on Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention with medical workers as the subject.

Through data and literature research, the researcher has made in-depth exploration on Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention, and analyzed the influencing factors and relationships of Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers, thus enriching relevant theoretical study centered on medical workers and providing theoretical support for hospital managers to carry out better policies.

Contribution 2: Perceived Justice has a positive impact on Organizational Commitment and Work Engagement.

This research found that Perceived Justice has a positive impact on Organizational Commitment, and has a positive relationship with Work Engagement.

Contribution 3: Perceived Justice, Organizational Commitment, and Work Engagement are relevant to Turnover Intention.

This research found that Perceived Justice, Organizational Commitment, and Work Engagement are all related to Turnover Intention, and such relations are negative.

Contribution 4: Work Engagement plays a significant mediating role in the relation between Perceived Justice and Turnover Intention.

This research found that Work Engagement has a significant mediating role in the relation between Perceived Justice and Turnover Intention. Perceived Justice has a positive impact on Work Engagement, and Work Engagement has a negative impact on Turnover Intention, while Perceived Justice has an indirect impact on Turnover Intention through Organizational Commitment.

6.3 Policy suggestions

6.3.1 Establishing a scientific and reasonable performance-based compensation system to make medical workers feel fairer about their salaries

As an important part of the reform of public hospitals, compensation system reform is related to the vital interests of every medical worker and the effectiveness of healthcare reform. Hospitals should strive to establish a scientific and reasonable performance-based compensation system and make it as standardized, transparent and fair as possible, to create a fair and rule-based salary distribution that follows strict procedures so that medical workers feel that their efforts to hospitals are consistent with rewards of hospitals. A scientific and reasonable performance-based compensation system should be closely connected to the level of medical workers' contribution to the organization goals, so as to create an atmosphere where talents are respected and paid more for their more efforts and where the principle of fair competition and survival of the fittest is adopted. Therefore, workers will believe that their efforts are directly proportional to their rewards, so that they can truly experience Perceived Justice and improve their enthusiasm for work.

In order to establish a scientific and reasonable performance-based compensation system, we should: (1) adhere to the principle of seeking truth from facts and formulate a performance-based compensation system in line with the reality of the hospitals, which requires the hospitals to attach importance to the motivate mechanism of medical workers in accordance with their own positioning and the responsibilities and requirements of different posts, including the physician, nurse, technician, pharmacist and administrator, so as to formulate the performance-based compensation system for the hospitals scientifically and rationally; (2) set up a scientific and reasonable performance indicator system to optimize the way of assessment. As for the design of performance indicators, critical and key indicators should be highlighted according

to the nature and functions of different positions of medical staff. Quantitative indicators and qualitative indicators should be combined in assessment to improve the objectivity and authenticity of their performance-based results, which can promote medical workers' recognition of their performance results and then enhance their good perception of Procedural Justice in organizational justice. At the same time, in order to better supervise and assess the medical workers, attention should be paid to the method of information technology during the assessment and evaluation, and the evaluation mechanism should be simplified. In addition, the assessment process should be based on the actual work and facts, and the assessment results should be linked with the performance pay so as to play the incentive role of performance appraisal; (3) adopt a mode combining fixed salary and highly flexible welfare benefits on the premise of achieving basic fairness in the design of pay system, so that medical workers can feel the organizational justice while recognizing their shortcomings and then making improvements in time; set performance goals suitable for medical workers based on a comprehensive assessment of their working capacities, attitudes, performances and potential capabilities, so as to prevent their psychological frustration caused by unattainable goals and their unconscious complacency bred by simple goals, both of which are unfavorable for the improvement of their performance levels and the realization of organizational goals. (4) improve hospitals' performance-based compensation system by means of listening and communication. Collect the opinions and suggestions on the design and improvement of performance-based compensation system, so as to make the best efforts to meet the psychological needs of medical workers for the Perceived Justice, which includes Distributive Justice, Interactional Justice and Procedural Justice. The hospitals' performance-based compensation system should be open and transparent and the understanding of performance pay should be deepened, so as to raise everyone's Work Engagement and Organizational Commitment.

6.3.2 Strengthening the career planning of medical workers to promote the construction of hospitals' talent teams

Making a good career planning for medical workers can not only help them build positive occupational psychology and realize their professional ideals and self-worth, but also help hospitals retain talents to enhance core competence and promote sustainable development. In order to do well in the career planning of medical workers: (1) hospitals should attach importance to understanding the needs, abilities and self-goals of their staff, and seek common

ground with the hospitals' ideas and goals, which should then be taken as the key point for hospitals to instruct their staff's career development; hospitals should make medical workers match their positions, so as to ensure that they can be competent to do their jobs; in external recruitment, hospitals should select those who share similar ideas and beliefs, meet the qualifications of the position and identify with the hospitals' cultures. When medical workers recognize the values of the hospital, they can quickly adapt to all aspects of the hospital after beginning their work; during internal selection, hospitals should combine the actual performance of medical workers to determine whether they are competent for the new position, and strive to arrange the personnel with the corresponding capabilities and qualities to suitable positions, so as to achieve the best use of talents. (2) hospitals should formulate training and development plans based on the interests and specialties of medical workers and the needs of the hospitals, and help their staff improve themselves by means of training, advanced study and rotation exercise in a step-by-step, planned and phased manner, so as to fully tap their potential and meet the requirements of their ideal commitment; hospitals should adhere to the concept of catering for individual needs, that is, hospitals can help medical workers equip with abilities they lack by designing different training courses for them according to their performance-based results and personal career planning, so as to jointly develop their potential and make the training work more effective. (3) in the light of their realities, hospitals should improve the promotion path by increasing post levels, establish career planning files for medical workers to record their progress, and plan their career development paths in their organizations in line with their assessment results of different periods and their characteristics. Medical workers with technical expertise can take the promotion path to technical management posts, and those who are communicative can take the promotion path to administrative posts, so that every medical worker will have the motivation to work for the realization of self-worth. A work vision should also be established to improve the staff's job satisfaction, Work Engagement and Organizational Commitment, and reduce Turnover Intention, thereby stabilizing the hospitals' talent teams.

6.3.3 Enhancing soft management and humanistic care to improve medical workers' sense of belonging

On the basis of carrying out a strict system, hospitals should enhance soft management and humanistic care, combine strict management with care and trust, and stimulate staff's enthusiasm for work by means of work support, treatment guarantee and psychological care to improve the sense of belonging of medical workers. Due to the different needs of medical

workers at different levels, hospitals can supplement their strict system management with soft management. Starting from the multi-level and diversified needs of their staff and keeping in line with the different needs in different development periods and of different positions, hospitals should take some management measures, such as specific soft incentives and humanistic care to increase their staff's sense of organizational belonging. For example, the design of compensation and performance management should reflect the different characteristics of medical workers: hospitals should boast various forms of compensation and provide the appropriate form of compensation in line with the different needs of medical workers, such as money, promotion, organizational care, and honorary commendation. At the same time, hospitals can also strengthen the construction of their culture and work team, and care for the work, study and life of their staff, so as to enhance the medical workers' recognition of the hospitals' values, make them feel the humanistic care from the hospitals, and enhance the emotional connection between colleagues. Hospitals can improve the staff's sense of belonging to the hospitals by creating a harmonious and warm communication atmosphere and organizing various group activities that can enhance team cohesion, giving them a psychological feeling of belonging to hospitals and altering the meaning of the hospital for them from "jobs" to "home", so as to enhance their organizational identity.

6.3.4 Creating a cultural atmosphere that encourages staff participation to enhance medical workers' sense of ownership

Hospitals should create an atmosphere to encourage staff participation and make medical workers actively participate in the activities and work of the hospitals, give play to their creativity, increase their sense of ownership and enhance their loyalty to the hospitals. In the process of decision-making and management, hospitals should establish a fair and just feedback mechanism, where the staff are encouraged to participate and their opinions and suggestions are carefully listened. In China, employees easily bound by strict superior-subordinate relationships are afraid and unwilling to express their true thoughts, so communication between superiors and subordinates is often one-way without response, which is ineffective communication. Against this backdrop, managers should take the initiative to guide medical workers to express themselves and then listen to their opinions. Particularly, employees should be involved in the development, modification or implementation of compensation-related policies to express their opinions and managers should affirm their loyalty and contribution to the hospital, which is especially important for core medical workers for greatly improving their

belonging and loyalty to the hospital and reducing their turnover rate. It enables the hospital to make use of the performance of core medical workers to strengthen the hospital's core competitiveness and sustainability. At the same time, hospitals should establish a participation incentive mechanism. If medical workers' suggestions are adopted by hospitals, hospitals should reward them in a timely manner and consider these suggestions as a factor in their promotion, so as to motivate medical workers and strengthen their willingness to communicate and participate in it, enhance their sense of responsibility to the hospitals, increase their Organizational Commitment while reducing their Turnover Intention, and eventually improve the hospitals' talent teams. The involvement of medical workers in the establishment of mechanisms can also affect their perception of fairness in distribution results. In this way, even though things such as the results of compensation distribution may not be ideal or may not meet their expectations, they will still agree with and affirm the fairness of the results, which can guarantee their job performance and reduce their Turnover Intention.

6.3.5 Establishing an analytical system of turnover control to build an effective talent retention strategy

It is an important task for hospitals to attract and retain talents and reduce the turnover rate of employees by regularly recording the turnover rate of medical workers and analyzing the reasons behind it. A good risk control system for talent loss can help keep the mobility of medical workers within a relatively scientific range. When the mobility rate is out of reasonable range, an adverse effect will be triggered. Particularly, the negative impact will be worse when there is a serious loss of talents in crucial positions such as clinical departments in hospitals. Therefore, it is vital to establish an analytical system to control the turnover of medical workers, which helps monitor the turnover rate and predict the future trend of talent loss at all levels of human resources in hospitals. In this way, timely measures can be taken to control the talent loss. Hospitals can explore the reasons for resignation through interviews and questionnaires for medical workers who are about to leave their jobs, because they may be frank to talk about their inner thoughts. Interviews can reflect the care of the hospital and department for these medical workers and listen to their opinions and suggestions with an open mind; questionnaires can encourage them to be frank and give honest feedback. The administrative department of hospitals can analyze the relevant data to find out the latent problems of management behind the turnover from multiple dimensions as much as possible and solutions to problems so as to establish an effective talent retention strategy and avoid an abnormal turnover phenomenon of

“the capable leave while the incapable remain”.

6.4 Shortage and prospect of the research

Based on the Structural Equation Modeling, this research has investigated the relationship among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of medical workers in hospitals of different levels in Shenzhen, and has also provided some reference and countermeasures for hospital managers to do better in human resource management. This research has basically met our expectation. However, due to the topic's characteristics and limited research time, this research also has some problems, such as the incomplete collection of the sample data and the imperfect investigation. In the future research, we will focus on the following aspects:

(1) Improve the measuring tools. Concerning the content and the fitness of SEM, the investigation tools in this research need to be further improved. In the future research, we will further refine the topics of Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention, and redesign the questionnaire to improve the scientificity of the research.

(2) Expand the sample capacity. In order to make the research on the relationships among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention more representative, we need to do our verification with a larger number of samples from different regions. Therefore, in future research, we will expand the scale of the survey, increase the sample data of different hospitals in different regions, so as to make the research results more scientific and reliable.

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Annex A: Questionnaire on the Relationship between Pay Fairness, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

Dear medical workers:

Thank you very much for participating in this survey during your busy schedule. We are conducting a research on the relationship between pay fairness, Work Engagement, Organizational Commitment and Turnover Intention of medical workers. We are inviting you to fill out this questionnaire. This questionnaire is for academic research only, and the content you fill out will be kept strictly confidential. The quality of your questionnaire will directly affect the accuracy of our research results. Please answer each question carefully. Thank you again for your support and help.

Notes: Please mark the options that you think are appropriate with “√”. There is no right or wrong answer. Please choose the one that is closest to the facts. Filling out the questionnaire may take you 20-30 minutes. Please make sure to complete the questionnaire as the information you provide is very important for this research.

Thank you very much for your support!

A) First, we like to know some information about your work:

1. Your personnel category is: (choose one option)

Doctor Nurse Administrator Health support and logistics personnel Other

2. Your occupation is:

Leader of the hospital Middle-level manager of the hospital

Department manager (director or deputy director) Management staff Clinical staff

3. How many years have you been working in this hospital? _____

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

4. How many years have you been in this occupation? (Total experience in this hospital and other workplaces) _____

5. On average how many hours per week do you work in this hospital? _____

6. How many members are there in your work team? (Persons with the same supervisor) _____

B) Considering your current work condition, what are your opinions on the following statements: (Please mark the answer with “√”).

	Completely disagree	Disagree	Neither disagree or agree	Agree	Completely agree
7. You are fairly rewarded considering your responsibilities.	1	2	3	4	5
8. You are fairly rewarded in view of the amount of experience you have.	1	2	3	4	5
9. You are fairly rewarded for the amount of effort you put forth.	1	2	3	4	5
10. You are fairly rewarded for the work you have done well.	1	2	3	4	5
11. You are fairly rewarded considering the stresses and strains of your job.	1	2	3	4	5

D) We would like to know your opinions on the following topics: (Please mark the answer with “√”).

	Never	Rarely	Sometimes	Fairly often	Very often	Always
12. When I get up in the morning, I feel like going to work.	1	2	3	4	5	6
13. To me, my job is challenging.	1	2	3	4	5	6
24. When I am working, I forget everything else around me.	1	2	3	4	5	6

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

15. At my work, I feel bursting with energy.	1	2	3	4	5	6
16. My job inspires me.	1	2	3	4	5	6
17. Time flies when I am working.	1	2	3	4	5	6
18. At my work I always persevere, even when things do not go well.	1	2	3	4	5	6
19. I am enthusiastic about my job.	1	2	3	4	5	6
20. I get carried away when I am working.	1	2	3	4	5	6
21. I can continue working for a very long period at a time.	1	2	3	4	5	6
22. I am proud of the work that I do.	1	2	3	4	5	6
23. It is difficult to detach myself from my job.	1	2	3	4	5	6
24. At my job, I am very resilient, mentally.	1	2	3	4	5	6
25. I find the work that I do full of meaning and purpose.	1	2	3	4	5	6
26. I am immersed in my work.	1	2	3	4	5	6
27. When working, I feel strong and vigorous.	1	2	3	4	5	6
28. I feel happy when I am working intensely.	1	2	3	4	5	6

E) We would like to know your opinions on the relationship with your supervisor: (Please mark the answer with “X”).

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

	Completely disagree	Disagree	Neither disagree or agree	Agree	Completely agree
29. I can count on my supervisor to have fair policies.	1	2	3	4	5
30. Where I work, my supervisor's procedures and guidelines are very fair.	1	2	3	4	5
31. My supervisor does not have any fair policies.	1	2	3	4	5
32. The procedures my supervisor uses to make decisions are not fair.	1	2	3	4	5
33. My supervisor keeps me informed of why things happen the way they do.	1	2	3	4	5
34. My supervisor's decisions are made out in the open so that everyone always knows what is going on.	1	2	3	4	5
35. My supervisor treats me with dignity and respect.	1	2	3	4	5
36. Whether the outcome is good or bad, I always feel like I am kept informed by my supervisor.	1	2	3	4	5
37. I feel my supervisor holds me in high regard.	1	2	3	4	5
38. My supervisor makes it clear to me that I am a valuable employee.	1	2	3	4	5
39. My supervisor does not care how I am doing.	1	2	3	4	5

F) We would like to know your general opinions on the hospital you work for: (Please mark the answer with "X").

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

	Completely disagree	Disagree	Neither disagree or agree	Agree	Completely agree
40. The hospital's procedures and guidelines are very fair.	1	2	3	4	5
41. The procedures the hospital uses to make decisions are not fair.	1	2	3	4	5
42. I can count on the hospital to have fair policies.	1	2	3	4	5
43. We do not have any fair policies at the hospital.	1	2	3	4	5
44. The hospital makes it clear to me that I am a valuable employee.	1	2	3	4	5
45. I am kept informed, by the hospital, of why things happen the way they do.	1	2	3	4	5
46. Whether the outcome is good or bad, I always feel like I am kept informed by the hospital.	1	2	3	4	5
47. The hospital treats me with dignity and respect.	1	2	3	4	5
48. The hospital's decisions are made out in the open so that everyone always knows what is going on.	1	2	3	4	5
49. Whether right or wrong, the hospital always explains decisions to me.	1	2	3	4	5
50. I feel the hospital holds me in high regard.	1	2	3	4	5
51. The hospital does not care how I am doing.	1	2	3	4	5

G) Please make a general evaluation about the possible differences between rewards in your hospital:
(Please mark the answer with “√”).

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

	There is not much difference.	There is some difference.	There is a big difference.	There is a huge difference.
52. Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with the colleagues that perform similar jobs in this hospital, do you think there is a difference?	1	2	3	4
53. Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with your immediate supervisor, do you think there is a difference?	1	2	3	4
54. Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with the colleagues that perform similar jobs in other hospitals, do you think there is a difference?	1	2	3	4

	Differences are perfectly justified.	Differences are reasonably justified.	Differences are not quite justified.	There is no justification to the differences.
55. If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with colleagues doing similar work in the hospital, do you think the existing differences are reasonable?	1	2	3	4
56. If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with your direct leaders, do you think the existing differences are reasonable?	1	2	3	4
57. If you were to compare the total rewards you receive (wages, extra-hours incentives, bonus, etc.) with colleagues doing similar jobs in other hospitals, do you think the existing differences are reasonable?	1	2	3	4

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

	I receive much less.	I receive less.	I receive the same.	I receive more.	I receive much more.
58. Comparing with my colleagues that perform a similar job in this hospital.	1	2	3	4	5

H) Please express your general opinion on the relationship with the hospital you work for: (Please mark the answer with “√”).

	Completely disagree	Disagree	Neither disagree or agree	Agree	Completely agree
59. I am willing to put in a great deal of effort beyond that normally expected in order to help this hospital to be successful.	1	2	3	4	5
60. I talk up this hospital to my friends as a great organization to work for.	1	2	3	4	5
61. I would accept almost any types of job assignment in order to keep working in this hospital.	1	2	3	4	5
62. I find that my values and hospital's values are very similar.	1	2	3	4	5
63. I am proud to tell others that I am part of this hospital.	1	2	3	4	5
64. This hospital really inspires the very best in me in the way of job performance.	1	2	3	4	5
65. I am extremely glad I chose this hospital to work for.	1	2	3	4	5
66. I really care about the prospect of this hospital.	1	2	3	4	5

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

67. For me, this is the best of all possible hospitals to work for.	1	2	3	4	5
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H) Please evaluate the frequency of the following behaviors: (Please mark the answer with “√”).

	Never	Rarely	Sometimes	Fairly often	Very often	Always
68. I am willing to stand up to protect the reputation of this hospital.	1	2	3	4	5	6
69. I am willing to assist new colleagues to adapt to the work environment.	1	2	3	4	5	6
70. I am eager to tell outsiders good news about this hospital and clarify their misunderstandings.	1	2	3	4	5	6
71. I am willing to help colleagues solve work related problems.	1	2	3	4	5	6
72. I make constructive suggestions that can improve the operation of the hospital.	1	2	3	4	5	6
73. I am willing to cover work assignments for colleagues when needed.	1	2	3	4	5	6
74. I actively attend hospital meetings.	1	2	3	4	5	6
75. I am willing to coordinate and communicate with colleagues.	1	2	3	4	5	6

I) Please tell us your opinions on the following statements: (Please mark the answer with “X”).

	Completely disagree	Disagree	Neither disagree or agree	Agree	Completely agree
76. I often think of leaving this hospital.	1	2	3	4	5

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

77. It is very possible that I will look for a new job next year.	1	2	3	4	5
78. If I may choose again, I will choose to work for another hospital.	1	2	3	4	5

J) Personal information:

79. Age _____

80. Gender: Male Female

81. Educational levels

Vocational school and below Undergraduate Postgraduate and above

82. Your total number of school years? _____

83. Number of years after obtaining your highest academic degree? _____

84. Marital status

Unmarried, divorced, or widowed (single without partner)

Married or living with a partner (with spouse or partner)

85. How many kids do you have? _____

86. How many employees work in your hospital? _____

Thank you for your participation!

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Annex B: Relevant Tables

Table b.1 KMO and Bartlett test of Perceived Justice scale

Test index	Test result
Kaiser-Meyer-Olkin measure of sampling adequacy	0.945
Bartlett's Test of Sphericity	Chi-square approximation
	Df
	Sig.
	13257.178
	378
	.000

Table b.2 Explanation of total variance of Perceived Justice scale

Com pone nts	Initial eigenvalues			Extraction sums of squared loadings			Rotated sums of squared loadings		
	Total	Variance percent	Cumula tive per cent	Total	Variance per cent	Cumula tive per cent	Total	Variance per cent	Cumula tive per cent
1	12.377	44.203	44.203	12.377	44.203	44.203	5.657	20.203	20.203
2	3.149	11.247	55.45	3.149	11.247	55.45	5.339	19.069	39.271
3	2.068	7.386	62.835	2.068	7.386	62.835	4.724	16.872	56.143
4	1.891	6.753	69.588	1.891	6.753	69.588	2.502	8.934	65.077
5	1.034	3.694	73.282	1.034	3.694	73.282	2.297	8.205	73.282

Table b.3 Rotated components matrix of Perceived Justice scale

	Components				
	1	2	3	4	5
F10	0.829				
F9	0.824				
F7	0.821				
F6	0.788				
F8	0.674				
F1	0.622				
F11	0.619				
F3	0.540				
F5	0.535				
E7		0.800			
E9		0.797			
E10		0.747			
E1		0.719			
E8		0.718			
E2		0.715			

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

	Components				
	1	2	3	4	5
E6		0.702			
E5		0.545			
B3			0.917		
B1			0.905		
B2			0.897		
B4			0.894		
B5			0.887		
E3				0.831	
E4				0.734	
E11				0.597	
F12					0.628
F4					0.599
F2					0.499

Table b.4 KMO and Bartlett test of Work Engagement scale

Test index	Test result
Kaiser-Meyer-Olkin measure of sampling adequacy	0.961
Bartlett's Test of Sphericity	Chi-square approximation 7717.752
	Df 136
	Sig. .000

Table b.5 Explanation of total variance of Work Engagement scale

Components	Initial eigenvalues			Extraction sums of squared loadings			Rotated sums of squared loadings		
	Total	Variance per cent	Cumulative per cent	Total	Variance per cent	Cumulative per cent	Total	Variance per cent	Cumulative per cent
1	10.118	59.519	59.519	10.118	59.519	59.519	7.430	43.708	43.708
2	1.140	6.707	66.226	1.140	6.707	66.226	3.828	22.518	66.226

Table b.6 Rotated components matrix of Work Engagement scale

	Components	
	1	2
D17	.840	
D14	.824	
D16	.823	
D13	.813	
D8	.798	.402
D11	.790	
D9	.785	
D5	.748	.423

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

	Components	
	1	2
D1	.693	
D4	.678	.489
D7	.652	.452
D15	.616	.525
D12		.706
D10		.692
D3		.692
D2		.669
D6	.465	.559

Table b.7 KMO and Bartlett test of Organizational Commitment scale

Test index	Test result
Kaiser-Meyer-Olkin measure of sampling adequacy	0.938
Bartlett's Test of Sphericity	Chi-square approximation
	Df
	Sig.
	6987.131
	136
	.000

Table b.8 Explanation of total variance of Organizational Commitment scale

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotated sums of squared loadings		
	Total	Variance per cent	Cumulative per cent	Total	Variance per cent	Cumulative per cent	Total	Variance per cent	Cumulative per cent
1	8.501	50.004	50.004	8.501	50.004	50.004	5.062	29.774	29.774
2	2.375	13.968	63.972	2.375	13.968	63.972	4.486	26.385	56.159
3	1.020	5.998	69.970	1.020	5.998	69.970	2.348	13.811	69.970

Table b.9 Rotated components matrix of Organizational Commitment scale

	Components		
	1	2	3
I6	.856		
I4	.854		
I8	.829		
I2	.800		
I7	.757		
I3	.733		
I1	.620		.517
I5	.584		
H6		.823	
H9		.822	

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

H7	.802	
H5	.730	
H3	.724	
H2	.667	.480
H4	.663	
H1		.738
H8		.693

Table b.10 KMO and Bartlett test of Turnover Intention scale

Test index	Test result
Kaiser-Meyer-Olkin measure of sampling adequacy	0.750
Bartlett's Test of Sphericity	Chi-square approximation
	Df
	Sig.
	1141.977
	3
	.000

Table b.11 Explanation of total variance of Turnover Intention scale

Comp onents	Initial eigenvalues			Extraction sums of squared loadings		
	Total	Variance per cent	Cumulative per cent	Total	Variance per cent	Cumulative per cent
1	2.541	84.693	84.693	2.541	84.693	84.693

Table b.12 Component matrix of Turnover Intention scale

	Components	
	1	
J1	.932	
J2	.925	
J3	.903	

Table b.13 Descriptive analysis of Distributive Justice (B)

No.	Item	$\bar{X} \pm S$
1	You are fairly rewarded considering your responsibilities.	2.960±1.051
2	You are fairly rewarded in view of the amount of experience you have.	2.980±1.043
3	You are fairly rewarded for the amount of effort you put forth.	2.890±1.058
4	You are fairly rewarded for the work you have done well.	3.000±1.037
5	You are fairly rewarded for the stresses and strains of your job.	2.830±1.060

Table b.14 Descriptive analysis of Interactional Justice (E)

No.	Item	$\bar{X} \pm S$
1	I can count on my supervisor to have fair policies.	3.700±0.881
2	Where I work, my supervisor's procedures and guidelines are very fair.	3.520±0.900
3	My supervisor does not have any fair policies.	3.630±0.942
4	The procedures my supervisor uses to make decisions are not fair.	3.600±0.891
5	My supervisor keeps me informed of why things happen the way they do.	3.530±0.815
6	My supervisor's decisions are made out in the open so that everyone always knows what is going on.	3.610±0.865
7	My supervisor treats me with dignity and respect.	3.710±0.839
8	Whether the outcome is good or bad, I always feel like I am kept informed by my supervisor.	3.710±0.777
9	I feel my supervisor holds me in high regard.	3.370±0.856
10	My supervisor makes it clear to me that I am a valuable employee.	3.470±0.890
11	My supervisor does not care how I am doing.	3.590±0.917

Table b.15 Descriptive analysis of Procedural Justice (F)

No.	Item	$\bar{X} \pm S$
1	The organization's procedures and guidelines are very fair.	3.150±0.904
2	The procedures the organization uses to make decisions are not fair.	3.350±0.836
3	I can count on the organization to have fair policies.	3.420±0.839
4	We do not have any fair policies at the organization.	3.640±0.825
5	The organization makes it clear to me that I am a valuable employee.	3.340±0.810
6	I am kept informed, by the organization, of why things happen the way they do.	3.300±0.749
7	Whether the outcome is good or bad, I always feel like I am kept informed by the organization.	3.400±0.787
8	The organization treats me with dignity and respect.	3.420±0.796
9	The organization's decisions are made out in the open so that everyone always knows what is going on.	3.460±0.799
10	Whether right or wrong, the organization always explains decisions to me.	3.410±0.768
11	I feel the organization holds me in high regard.	3.120±0.816
12	The organization does not care how I am doing.	3.400±0.810

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover
Intention of Medical Workers

Table b.16 Descriptive analysis of Work Engagement (D)

No.	Item	$\bar{X} \pm S$
1	When I get up in the morning, I feel like going to work.	3.910±1.358
2	To me, my job is challenging.	4.020±1.215
3	When I am working, I forget everything else around me.	4.220±1.214
4	At my work, I feel bursting with energy.	4.350±1.187
5	My job inspires me.	4.120±1.267
6	Time flies when I am working.	4.680±1.222
7	At my work, I always persevere even when things do not go well.	4.570±1.161
8	I am enthusiastic about my job.	4.360±1.244
9	I get carried away when I am working.	3.990±1.236
10	I can continue working for very long periods at a time.	4.110±1.172
11	I am proud of the work that I do.	4.170±1.345
12	It is difficult to detach myself from my job.	3.880±1.236
13	At my job, I am very resilient, mentally.	4.210±1.215
14	I find the work that I do full of meaning and purpose.	4.400±1.278
15	I am immersed in my work.	4.420±0.938
16	At my job, I feel strong and vigorous.	4.310±1.151
17	I feel happy when I am working intensely.	4.270±1.255

Table b.17 Descriptive analysis of Organizational Commitment 1 (H)

No.	Item	$\bar{X} \pm S$
1	I am willing to put in a great deal of effort beyond what is normally expected in order to help this organization to be successful.	3.840±0.836
2	I talk up this organization to my friends as a great organization to work for.	3.590±0.854
3	I would accept almost any types of job assignment in order to keep working on this organization.	3.200±0.970
4	I find that my values and organization's values are very similar.	3.560±0.775
5	I am proud to tell others that I am part of this organization.	3.680±0.814
6	This organization really inspires the very best in me in the way of job performance.	3.480±0.835
7	I am extremely glad I chose this organization to work for over others I was considering at the time I joined	3.570±0.853
8	I really care about the fate of this organization.	4.140±0.749
9	For me, this is the best of all possible organizations for which to work.	3.320±0.930

Table b.18 Descriptive analysis of Organizational Commitment 2 (I)

No.	Item	$\bar{X} \pm S$
1	I'm willing to stand up to protect the reputation of this hospital.	4.890±1.180
2	I'm willing to assist new colleagues to adjust to the work environment.	5.130±0.969
3	I am eager to tell outsiders good news about this hospital and clarify their misunderstandings.	4.930±1.119
4	I'm willing to help colleagues solve work-related problems.	5.090±1.002
5	I make constructive suggestions that can improve the operation of the hospital.	4.000±1.335
6	I'm willing to cover work assignments for colleagues when needed.	4.870±1.061
7	I actively attend hospital meetings.	4.710±1.260
8	I'm willing to coordinate and communicate with colleagues.	4.980±1.103

Table b.19 Descriptive analysis of Turnover Intention (J)

No.	Item	$\bar{X} \pm S$
1	I often think of leaving this hospital.	2.420±0.972
2	It is very possible that I will look for a new job next year.	2.260±0.994
3	If I may choose again, I will choose to work for another organization.	2.530±1.030

Table b.20 Descriptive analysis of the evaluation of differences in hospital salary system (G)

No.	Item	$\bar{X} \pm S$
1	Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc) with the colleagues that perform similar jobs in this hospital, do you think there is a difference?	2.820±0.748
2	Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc) with your immediate supervisor, do you think there is a difference?	2.660±0.749
3	Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc) with colleagues with similar jobs in other hospitals, do you think there is a difference?	2.580±0.759
4	Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc) with the colleagues that perform similar jobs in this hospital, do you think the difference is reasonable?	2.500±0.692

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

No.	Item	$\bar{X} \pm S$
5	Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc) with your immediate supervisor, do you think the difference is reasonable?	2.780±0.686
6	Comparing the total rewards you receive (wages, extra-hours incentives, bonus, etc) with colleagues with similar jobs in other hospitals, do you think the difference is reasonable?	2.410±0.709
7	Comparing the total rewards you receive with the colleagues that perform similar jobs in this hospital, do you think the difference is big? Or small?	2.360±0.784

Table b.21 Relation between the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Organizational Commitment

Variable	Distributive Justice	Interactional Justice	Procedural Justice
Organizational Commitment 1	0.475*	0.507*	0.668*
Organizational Commitment 2	0.218*	0.406*	0.434*
Organizational Commitment	0.374*	0.506*	0.605*

Note: * means $P < 0.05$

Table b.22 Relation between the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Work Engagement

Variable	Distributive Justice	Interactional Justice	Procedural Justice
Work Engagement	0.318*	0.460*	0.452*

Note: * means $P < 0.05$

Table b.23 Relation between the three variables of Perceived Justice (Distributive Justice, Interactional Justice, and Procedural Justice) and Turnover Intention

Variable	Distributive Justice	Interactional Justice	Procedural Justice
Turnover Intention	-.484*	-.445*	-.546*

Note: * means $P < 0.05$

Relations among Perceived Justice, Work Engagement, Organizational Commitment and Turnover Intention of Medical Workers

Table b.24 Analysis result of Model 4

Fitting index		χ^2 df	CFI	NFI	TLI	RESEA A	GFI	AGFI	SRMR
Refer- ence value	Great	<3	>0.9	>0.9	>0.9	<0.06	>0.9	>0.9	<0.05
	Accept- able	<5	>0.7	>0.8	>0.8	<0.1	>0.8	>0.8	<0.08
Initial results		16.258	0.935	0.931	0.870	0.165	0.947	0.842	0.047
Results after the first correction (e1-e2)		6.898	0.980	0.977	0.950	0.103	0.981	0.928	0.029

Table b.25 Analysis result of Model 5

Fitting index		χ^2 df	CFI	NFI	TLI	RESEA	GFI	AGFI	SRMR
Refer- ence value	Great	<3	>0.9	>0.9	>0.9	<0.06	>0.9	>0.9	<0.05
	Accept- able	<5	>0.7	>0.8	>0.8	<0.1	>0.8	>0.8	<0.08
Initial results		11.661	0.948	0.943	0.895	0.138	0.962	0.886	0.045
Results after the first correction (e4-e5)		7.010	0.976	0.973	0.941	0.104	0.980	0.925	0.030

Table b.26 Analysis result of Model 6

Fitting index		χ^2 df	CFI	NFI	TLI	RESEA A	GFI	AGFI	SRMR
Refer- ence value	Great	<3	>0.9	>0.9	>0.9	<0.06	>0.9	>0.9	<0.05
	Accept- able	<5	>0.7	>0.8	>0.8	<0.1	>0.8	>0.8	<0.08
Initial results		6.898	0.989	0.980	0.950	0.103	0.981	0.928	0.029

Table b.27 Relation between Perceived Justice and Turnover Intention through Work Engagement

Fitting index		χ^2 df	CFI	NFI	TLI	RESEA A	GFI	AGFI	SRMR
Refer- ence value	Great	<3	>0.9	>0.9	>0.9	<0.06	>0.9	>0.9	<0.05
	Accept- able	<5	>0.7	>0.8	>0.8	<0.1	>0.8	>0.8	<0.08
Initial results		7.010	0.976	0.973	0.941	0.104	0.980	0.925	0.030