Attribution Model of Job Burnout and Job Engagement of Medical Staff in Tertiary Public Hospitals in Guizhou Province: From the Perspective of Job Demands-Resources Theory

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Doctor of Management

Supervisor:
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Abstract

Burnout of medical staff is a common problem in the field of health care. At present, there is no complete attribution model for job burnout and job engagement among medical staff in tertiary public hospitals in China, and the influence of culture-related factors on job burnout and job engagement has been ignored to a certain extent. Based on the job demand-resource (JD-R) theory and quantitative research method, this research conducted a sampling survey on 1653 medical staff from 14 tertiary public hospitals in Guizhou Province, and built an attribution model for job burnout and job engagement of medical staff in tertiary public hospitals. The latent variable structural equation model was established by M plus, and the following conclusions were obtained: (1) Job demands had a significant positive impact on job burnout and a significant negative impact on job engagement; (2) Job resources have a significant positive impact on job engagement and a significant negative impact on job burnout; (3) Job engagement has a significant negative impact on job burnout; (4) Job engagement has a mediating effect between job resources and job burnout, and job engagement has a mediating effect between job demands and job burnout; (5) Confucian coping has a significant positive moderating effect on the relationship between job resources and job engagement, and Confucian coping has a significant negative moderating effect on the relationship between job demands and job burnout. The relevant research conclusions have important theoretical value for guiding the management practice of public hospitals.

Keywords: Job Demands-Resources Theory; Medical Staff; Job Burnout; Job Engagement; Tertiary Public Hospitals

JEL: C12; I11

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Resumo

O problema da exaustão (*burnout*) entre o pessoal médico é omnipresente, em especial no que se refere a hospitais públicos de primeira linha. Contudo, na China, não existe ainda um modelo completo que integre a exaustão e o compromisso para com o trabalho neste tipo de hospitais, nem que considere a influência de fatores culturais nestas variáveis. Esta tese procura responder a esta lacuna. Com base no modelo de exigências e recursos laborais (JD-R *job demand-resource*) foi realizado um inquérito a 1653 médicos de 14 hospitais públicos na província de Guizhou cujos resultados possibilitaram a construção de um modelo representativo do problema nestes hospitais. Para o grupo estudado, foi clarificada a relação entre as exigências e os recursos laborais, bem como a exaustão e o compromisso para com o trabalho. Estudou-se ainda o papel do Confucionismo na forma de lidar com o problema no contexto da cultura chinesa.

O modelo de equações estruturais foi desenvolvido através do Mplus tendo-se obtido as seguintes conclusões: (1) as exigências laborais, designadamente a sobrecarga de trabalho, o conflito casa-trabalho, pressão para a realização de investigação, perceção pública de divergências, e violência no local de trabalho têm um significativo impacto positivo na exaustão laboral e negativo no compromisso para com o trabalho; (2) as exigências laborais, que incluem oportunidades de carreira apercebidas, adequação da pessoa à tarefa, perceção do estatuto organizacional, relações interpessoais e justiça organizacional, têm um impacto positivo significativo no compromisso para com o trabalho e negativo na exaustão laboral; (3) o compromisso para com o trabalho tem um impacto negativo significativo na exaustão laboral; (4) o compromisso para com o trabalho exerce ainda um efeito moderador quer entre os recursos e as exigências laborais e a exaustão; (5) o papel do Confucionismo tem um significativo efeito moderador positivo na relação entre recursos laborais e compromisso para com o trabalho mas negativo na relação entre exigências laborais e exaustão. Estas conclusões trazem uma fundamentação teórica importante que podem ajudar a melhorar a prática da gestão dos hospitais públicos na China.

Palavras-chave: Modelo das Exigências e Recursos; Médicos; Exaustão; Compromisso laboral; Hospitais Públicos

JEL: C12; I11

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摘 要

医务人员职业倦怠在医疗卫生领域是一个较普遍的问题。目前，国内没有形成较完整的关于三级公立医院医务人员工作倦怠和工作投入的归因模型，且文化相关因素对工作倦怠和工作投入的影响在一定程度上被忽视了。本研究以工作需求-资源(JD-R)理论为基础，采用定量研究方法，对贵州省14家三级公立医院的1653名医务人员进行抽样调查，构建了三级公立医院医务人员工作倦怠与工作投入的归因模型，厘清了这一群体的工作需求、工作资源、工作倦怠与工作投入之间的关系，并在中国文化背景下探讨了儒家应对思想在该模型中的作用。通过M plus建立潜变量结构方程模型，得到了如下研究结论：（1）工作要求（工作量，工作-家庭冲突，科研压力，感知公众不团结，工作场所暴力）对工作倦怠存在显著正向影响，对工作投入存在显著负向影响；（2）工作资源（感知职业机会，个人-工作匹配，组织地位感知，人际关系，组织公平）对工作投入存在显著正向影响，对工作倦怠存在显著负向影响；（3）工作投入对工作倦怠存在显著负向影响；（4）工作投入在工作资源与工作倦怠间存在中介作用，工作投入在工作要求与工作倦怠间存在中介作用；（5）儒家应对思想在工作资源与工作投入间存在显著正向调节作用，儒家应对思想在工作需求与工作倦怠间存在显著负向调节作用。相关研究结论，对于指导公立医院的管理实践具有比较重要的理论价值。

关键词：工作要求-资源理论；医务人员；工作倦怠；工作投入；三级公立医院

JEL: C12; I11

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January 7, 2023, weekend with nice weather, like those countless weekends in the past three years, I am still sitting in the seat of C3 in "Immersive Study with You" study room. But today is different, from the opening ceremony on September 20, 2019, to today, I finally come to the Acknowledge part in my thesis after 1205 days. My mind now is full of thoughts and feelings, as looking back, I think of Wang Guowei in *RenJianCiHua* (*Comment on Ci and Poetry of Human World*) mentioned in the "three realms of learning".

Last night, the west wind swept the trees of their green foliage,

When, alone, I ascended to the tall hermitage.

There, I searched the path to where it disappeared beyond the world's edge.

RenJianCiHua in the first realm is that, in the confusion to establish the goal of struggle. In 2018, with the deepening of the work content and the expansion of the boundary, I was in a strong panic of "skills". I am grateful to Professor Geng Renwen, my postgraduate tutor and former president of Nanfang Hospital, for his encouragement and guidance to me at that time, and to my family for their full support and cooperation, which gave me great courage to step on the road of further study.

My clothes grow daily more loose, yet care I not.

For you am I thus wasting away in sorrow and pain.

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After repeated failure to find you in the crowd,

Abruptly I turn around,

And there you are

Right in the waning light.

The third realm is that, after several years of exploring, unremitting struggle, inadvertently between the goal to achieve. In my opinion, the biggest harvest in these years is not the completion of the thesis, but the continuous improvement of the way of thinking and the gradual establishment of scientific research ideas. The improvement of academic qualifications is only the realization of stage goals, and learning is always on the road.

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昨夜西风凋碧树，独上高楼，望尽天涯路——立

《人间词话》中的第一境界是"昨夜西风凋碧树，独上高楼，望尽天涯路"，即在迷茫中树立奋斗目标。2018 年，随着工作内容的不断深入和边界的不断扩展，我一直处于强烈的"本领恐慌"中，感谢这个时候我的硕士研究生导师、原南方医院院长耿仁文教授对我的鼓励和指导，感谢家人对我的全力支持和配合，给了我莫大的勇气踏上继续求学之路。

衣带渐宽终不悔，为伊消得人憔悴——求

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众里寻他千百度，蓦然回首，那人却在，灯火阑珊处——得

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List of Abbreviations

Abbreviation	Explanation
JB	Job burnout
JE	Job engagement
VIG	Vigor
DED	Dedication
ABS	Absorption
JD	Job demand
WO	Work overload
WOC	Work-home conflict
RS	Research stress
PPD	Perceived public disunity
WV	Workplace violence
JR	Job resource
PCO	Perceived career opportunity
PJF	Person-job fit
OSP	Organizational status perception
JA	Job autonomy
POS	Perceived Organizational support
IR	Interpersonal relationship
OJ	Organizational justice
CC	Confucian coping
OA	Optimism in the adversity
VF	The viewpoints to "fate"
RH	The responsibility as human beings
AIG	The role of adversity to individual growing

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Chapter 1: Research Introduction

1.1 Research background

1.1.1 Medical human resources and public hospitals in China

In 2020, there were altogether 13.475 million medical staff in China, including 10.678 million health technicians, 796 thousand rural clinicians and health workers, 5.529 million other technicians, 561 thousand managers and 911 thousand skilled workers. Among the health technicians, there were 3.402 million medical practitioners, 4.709 million registered nurses, 497 thousand pharmacists and 561 thousand specialized technicians. Among per thousand population, China has 7.57 health technicians, 2.41 medical practitioners and 3.34 registered nurses (Ma et al., 2021). According to the *2020 World Health Statistics* released by the World Health Organization (2020), there are 2.41 practicing physicians, 12.15 nurses and midwives per thousand people in Japan. There are 4.25 practicing physicians, 13.24 nurses and midwives per thousand in Germany. There are 5.12 practicing physicians, 6.97 nurses and midwives per thousand people in Portugal. In 2019, there were 3.27 billion visits in public hospitals in China, an increase of 20.6% over 2015. At the same time, the proportion of health investment in GDP is also an important index to measure the health needs of the whole people in a country. The total health expenditure in developed countries accounts for more than 10% of GDP, while China now accounts for 7.1%. There is still a huge room for health needs in the future, and the mission will gradually be more and more significant. At the same time, there is a huge gap between the growth rate of medical staff and the demands of medical and health services. According to a study published in *The Lancet* in October, 2016 (Lien et al., 2016), from 2004 to 2015, there were 4.728 million medical graduates in China, but only 752 thousand new practicing physicians were added. Without other interfering factors, it means that more than 84% of medical graduates did not choose to be physicians at last, and the demands for medical services was out of balance with the supply of medical services.

Chinese hospitals are divided into three levels according to their scale and core functions. First-class hospitals are often smaller in scale and provide preventive and rehabilitation services closer to community health. Second-class hospitals or regional hospitals provide comprehensive health care services to many communities, with 100 to 499 beds. Third-class

hospitals have at least 500 beds, covering a wider range and providing high-level and professional medical services. In 2020, there will be 35,394 hospitals in China, including 2,996 tertiary hospitals (8.4%), 10,404 secondary hospitals (29.4%), 12,252 primary hospitals (34.6%) and 9,742 non-graded hospitals (27.5%). Although tertiary hospitals only account for 8.4%, the number of beds in tertiary hospitals accounts for the national hospitals. Chinese hospitals are divided into public hospitals and private hospitals according to their registration types, among which public hospitals are dominant, with 71.4% of hospital beds in public hospitals and 78.11% of hospital health technicians in public hospitals. In 2020, there will be 3.32 billion out-patient services in China, of which 2.79 billion (84%) will be provided by public hospitals and 1.79 billion (54.1%) by tertiary hospitals. In 2020, there will be 180 million inpatient services in China, of which 150 million (80.8%) will be provided by public hospitals and 90 million (51.1%) by tertiary hospitals. It can be seen that although tertiary hospitals only account for 8.4% of the total number of hospitals in China, they provide more than half of the outpatient and inpatient services in China. In addition, according to the *Statistical Bulletin of Health and Health Development* in 2019 issued by the National Health Commission, the utilization rate of hospital beds in China is reported 83.6%, and 91.2% in public hospitals and 97.5% in tertiary hospitals respectively. In 2019, the average hospitalized period of inpatients was 9.1 days (see Table 1.1), physicians in hospitals nationwide are responsible for 7.1 medical visits and 2.5 bed days per day, among which, physicians in public hospitals are responsible for 7.6 medical visits and 2.6 bed days per day (see Table 1.2), and physicians' overwork has become the norm. In China, the effectiveness of primary care gatekeeping is limited (Xu et al., 2020). Therefore, as long as the patients can afford it, they will try their best to go to tertiary hospitals. According to the 2017 *White Paper on the Practical Status of Chinese Physicians*, the average working hours of them in secondary and tertiary hospitals are approximately 50 hours per week, of which 52.2 hours are for junior doctors. Up to 49.7% of doctors sleep less than 6 hours per day. With the increase of medical staff's workload, the occupational pressure and responsibility they face are also surging. At the same time, the incidence of gastrointestinal diseases, cervical spondylosis, migraine and other diseases among medical staff is also higher, which seriously threatens the physical and mental health of medical staff, and their health condition is not optimistic.

Table 1.1 Chinese hospital bed usage

Institutions category	Rate of bed utilization (%)		Average length of stay in hospital (Day)	
	2018	2019	2018	2019
According to registration type:	84.2	83.6	9.3	9.1
Public hospital	91.1	91.2	9.3	9.1
Private hospital	63.2	61.4	8.9	9.4
According to hospital level:				
Third-class hospital	97.5	97.5	9.6	9.2
Second-class hospital	83.0	81.6	8.8	8.8
First-class hospital	56.9	54.7	8.8	9.2

Source: Ma et al. (2019)

Table 1.2 Workload of physicians in Chinese hospitals

Institutions category	Average visits per day		Average days of hospitalization per day	
	2018	2019	2018	2019
According to registration type:	7.0	7.1	2.6	2.5
Public hospital	7.5	7.6	2.6	2.6
Private hospital	5.0	5.0	2.3	2.2
According to hospital level:				
Third-class hospital	7.8	7.9	2.6	2.5
Second-class hospital	6.7	6.8	2.7	2.6
First-class hospital	5.5	5.4	1.9	1.9

Source: Ma et al. (2019)

1.1.2 Status quo of healthcare human resources and services in Guizhou Province

According to the *China Health Statistics Yearbook* (2021), In 2020, there were 367 thousand health workers in Guizhou Province, including 288 thousand health technicians, 31 thousand rural doctors and health workers, 12 thousand other technicians, 17 thousand administrators and 18 thousand skilled workers. Furthermore, there are 77 thousand medical practitioners, 131 thousand registered nurses, 11 thousand pharmacists and 17 thousand technicians among health technicians. There are 7.46 health technicians, 2.0 medical practitioners and 3.41 registered nurses per thousand population in Guizhou province. There are 1, 378 hospitals in Guizhou province, including 65 tertiary hospitals (4.7%) and 34 tertiary grade A public hospitals. In 2020, there were 71.953 million outpatient services and 6.23 million inpatient services in hospitals in Guizhou Province. Hospital doctors were responsible for 5.1 outpatient services and 2.8 hospitalized days per day, among which, doctors in public hospitals were responsible for 5.3 outpatient services and 2.5 hospitalized days per day.

1.2 Research dilemma

1.2.1 Practical dilemma

Medical industry is a "high-pressure, high-demand, high-load" industry, and the job burnout risk of medical staff is significantly higher than that of other fields (Rao et al., 2010). In 2020, Medscape website conducted a survey on job burnout, depression and suicidal tendency among 12 000 physicians in 29 majors in the United States. The results showed that 42% of physicians felt tired and 1% of physicians said they had tried to commit suicide. This problem is particularly prominent in China. Xiao et al. (2022) conducted a survey on 25, 120 Chinese doctors in January, 2022, and the results indicated that the prevalence of Chinese medical staff exposed to at least one burnout symptom was 60.8%, whereas 11.2% reported all three symptoms of burnout, and medical staff in tertiary hospitals are more prone to report such symptoms than those in grass-root level hospitals. As an important resource of medical and health development in China and the main force of epidemic prevention and control, whether medical staff can devote themselves to their own work with healthy body and good mental state directly affects the quality of medical service, the life safety of patients and even the whole medical service system (Corrigan et al., 2020; Rothenberger, 2017; West et al., 2018).

A large-scale systematic review and meta-analysis by the University of Manchester in the UK showed that the job burnout of medical staff increased the incidence of major medical accidents, doubled the risk of adverse safety events of patients, and led to the decline of overall medical quality and patient satisfaction (Panagioti et al., 2018). Other studies have found that increased emotional exhaustion levels of physicians working in intensive care units (ICU) are associated with higher standardized patient mortality ratios (Welp et al., 2014). In addition to the great hidden danger to patients' safety, a physician who is physically and mentally exhausted is less efficient, and his turnover intention is twice that of a physician who has no burnout symptoms, and it will have an economic impact on the health care system by increasing the cost (Patel et al., 2018). According to statistics, the annual productivity loss caused by burnout in the United States is about the number of graduating classes in seven medical colleges (Dzau et al., 2018), and the cost of replacing a physician is about 500 thousand to 1 million US dollars (Wright & Katz, 2018). For an organization with 200 physicians, it costs at least $1.5 million a year to cope with the turnover of physicians and the reduction of clinical working hours due to job burnout (Liselotte N et al., 2019). After COVID-19, the medical institutions with 40%-50% labor cost increased from 15.9% before

the epidemic to 28.4% after the epidemic, and the medical institutions with more than 50% labor cost rapidly increased from 8.9% before the epidemic to 32.3%. It can be seen that on the one hand, the medical institutions after the epidemic are bearing the increasing labor cost, on the other hand, they are also facing the grim status quo of medical staff's job burnout, and the efficiency and economic benefits of human resources are worrying.

Berwick et al. (2008) and other scholars put forward in 2008 that "improving patients' experience", "improving people's health status" and "reducing medical service cost" should be regarded as the "trinity" basic goal of optimizing health system performance, which has been widely recognized and agreed for many years. However, in recent years, more and more scholars believe that the job burnout of medical staff seriously affects the realization of these three goals. Therefore, Bodenheimer and Sinsky (2014) emphasize that "improving the working life of medical service providers" should be included in the framework of health system optimization as the fourth goal, to achieve better medical services, wider population health and lower cost consumption.

To sum up, ameliorating the job burnout of medical staff is an urgent practical issue, which should be regarded as a basic healthcare policy goal. At the same time, research shows that, compared with the non-recession period, employees' job engagement in the recession period is a more powerful index to predict organizational performance (Pendell, 2020; West & Dawson, 2012), it is of great significance to improve the work quality and patient satisfaction of medical staff and realize the Health China strategy (Wan et al., 2021). Therefore, while solving job burnout, close attention should also be paid to the job engagement of medical staff.

1.2.2 Theoretical dilemma

In the medical and health industry, foreign scholars' research on job burnout and job engagement of medical staff is more inclined to improve strategy research and retrospective experience summary, while domestic related research started late, focusing mainly on descriptive status analysis and discussion of influencing factors, without forming a relatively complete attribution model. In particular, there is no complete attribution model for tertiary public hospitals.

In recent years, more and more scholars at home and abroad have also applied job demands-resources (JD-R) model to the medical and healthcare field (Britt et al., 2021; Kaiser et al., 2020; S. Wang et al., 2017; Zis et al., 2014). From the above research, it can be seen that there are few researches on taking job burnout and job engagement as outcome variables

among medical staff into JD-R model.

At present, research based on JD-R model mainly have the following two deficiencies in discussing job demands: First, job demands are limited to the internal organization. According to the theory of personal environment fit (Kristof-Brown & Guay, 2011), burnout comes from the mismatch between individuals and environment, and the greater the gap between people and environment, the greater the possibility of burnout (Andela & van der Doef, 2018). This mismatch mainly occurs in the following six areas: workload, control, reward, community, fairness and values (Maslach et al., 2001). However, this view only pays attention to the interaction within the organizational environment, without in-depth study on the influence of wider society and culture on job burnout. As components of society, people are bound to be influenced by a wide range of social situations, but the influence of factors outside the organization on job burnout of medical staff is rarely mentioned and studied. Second, the industry characteristics and innovation of job demands are not strong. At present, most of the job demands selected in the research mainly focuses on the traditional job demands such as workload, emotional demand, physical load, family work conflict, etc., and the unique job demands of the current medical industry are not deeply explored, so the innovation is not strong.

From the types of job resources, the related research based on JD-R theory started from paying attention to the occupational resource, and continued to deepen and expand to the field outside work. The introduction of personal resource is an important supplement and extension of JD-R model (Xanthopoulou et al., 2007). At present, the individual resources included in the research mainly include psychological, physical, emotional, intellectual and capital resources (Grover et al., 2017; Karatepe et al., 2018; Xanthopoulou et al., 2009), while the values and attitudes related to culture are seldom studied as personal resources, and the possibility of their being used as moderators is largely ignored. Moreover, Lazarus and Folkman (1984) mentioned the relationship between culture and stress coping when they studied stress reactions and coping. They believed that individual's beliefs and values would affect their assessment of stress and their choice of coping approaches. Individual response and adjustment are culture-oriented (Chun et al., 2006). Different cultural background would lead to big discrepancies in individual adjustment measures and their embodiment, which are rich in variety (Zhao, 2009). Western psychological research holds that pressure will cause agony and nerve, and agrees on the value of finding benefits in adversity by responding to eliminate the negative, alien power. However, such value is mainly used as a responding skill in specific scenarios, the appreciation towards adversity is excluded (Lazarus, 1993).

Meanwhile, Chinese culture plays an important role in Chinese people's response to stress (Shi, 2013). As the mainstream culture of Chinese society, Confucian culture has the functions of representation, construction, guidance and arousal in the process of mental health services in China, which has direct and indirect effects on Chinese people's personality, stress coping style and behaviors (Luo et al., 2010). Confucianism takes setbacks and other stressful events as opportunities for growth, which is a psychological transformation of the meaning of adversity itself. It reevaluates or redefines setbacks, reinterprets the adversity encountered by individuals from a positive perspective, and eliminates the original negative meaning of such adversity. Such ideas could help individuals psychologically accept, rather than reject the adversity; Thus, the psychological conflicts and pressure caused by setbacks and other difficult events are resolved, and the physical and mental reactions such as depression and depression are alleviated (Jing, 2006). From the perspective of cognitive evaluation, western philosophy supports finding meaning from adversity in order to eliminate the psychological pain caused by it and other negative life events. However, Chinese culture regards hardship and adversity as a driving force for personal growth. Finding meaning from adversity is not only to maintain mental health, but more importantly to use this "opportunity" to promote personal growth (Pan et al., 2010). It not only helps individuals maintain their mental health, but also promotes their own development. It is a positive coping style and an effective stress management strategy. Some studies at home and abroad have found that Confucian traditional values are beneficial to people's mental health (Badanta et al., 2022; Guo & Liu, 2018; Liang, 2010; Zhang, 2009; Zhang et al., 2011). But previous research on job burnout and job engagement did not shed light on the influence of this cultural factor.

1.3 Research content and research significance

1.3.1 Research content

Based on the Job Demands-Resources (JD-R) theory (Demerouti et al., 2001), this research will adopt quantitative research, and conduct a sample survey among 1653 medical staff from 14 tertiary public hospitals in Guizhou Province to measure the status quo of job burnout and job engagement of this group, and construct an attribution model of job burnout and job engagement. The specific research objectives are as follows:

1. Through literature review, the main job characteristics that affect the job burnout and job engagement of medical staff will be clearly identified, and further through quantitative

research, the job characteristics of medical staff in tertiary public hospitals will be explored by the researcher through scientific research design.

2. Through quantitative research, explore whether there are differences in perceived job resources and job demands, as well as differences in job engagement and job burnout among medical staff with different social demographic characteristics.

3. Through the structural equation model, the attribution model of job burnout and job engagement of medical staff in tertiary public hospitals will be constructed from the perspective of Job Demands-Resources theory, and the relationship among job demands, job resources, job burnout and job engagement of this group will be clarified, and in the Chinese culture background the role of Confucian coping in the model will be discussed as well.

1.3.2 Research value

As an applied doctoral dissertation, the significance of this research reflects two aspects. Firstly, on the basis of the existing theories and their further expansions, and the researcher strives to achieve some theoretical innovation. Secondly, the conclusion of this research is helpful to solve some practical problems in the management of Chinese tertiary public hospitals.

1.3.2.1 The theoretical innovation of this study

In this research, the Structural Equation Model (SEM) of latent variables will be established by M plus, and the effects of job resources and job demands on job engagement and job burnout will be discussed. The mediating role of job engagement among job demand, job resources and job burnout is also going to be further analyzed. The moderating model of latent variables will be established by M plus, and the mediating effect of Confucian coping will also be discussed, which can help to achieve certain theoretical value.

Firstly, this research expands the relationship between job engagement and job burnout. Through SEM, it is proved that job engagement not only directly has a negative impact on job burnout, but also plays a significant intermediary role between job features (job resources, job demand) and job burnout, which provides a new research idea for future research on job engagement and job burnout.

Secondly, this research enriches the theoretical research on antecedent variables of medical staff's job burnout. The researcher confirms that the perceived effort of others to the same collective goal in a wider social environment (outside the organizational environment) is the antecedent variable of job burnout of front-line medical staff. When front-line medical

staff found that the public did not follow the public health guidance and their words and deeds were inconsistent, they would have negative emotions that leads to job burnout. This research expands the antecedent variable of job burnout from inside the organization to outside the organization- the social public domain.

Thirdly, this research further expands the research extension of JD-R theory. Starting from the unique perspective of personal cultural background and cultural cognition, the researcher introduces Confucian coping as the moderating variable, which proves that they can cushion the negative impact of job demands on job burnout, enhance the positive impact of job resources on job engagement, expand the possibility boundary of JD-R theory, and improve the existing literature research.

1.3.2.2 The practical significance of this study

The results of this research show that employees' job engagement and job burnout are directly related to their job resources and job demands. After determining the key job resources and job demands, increasing job resources and alleviating job demands can not only improve the engagement, but also reduce job burnout.

Firstly, since our results underline the importance of the job resources (perceived career opportunity, person-job fit, organizational status perception, interpersonal relationship and organizational justice), they should inspire the hospital manager to provide diversified career growth opportunities for medical staff, create a good career development space, and enable every employee to find a career development route that really suits him or her. Meanwhile, build a good platform for employees, so that employees can realize their talents by relying on the platform, promote the matching of medical staff and posts, and effectively enhance the confidence of medical staff in career development and their perception of organizational status. However, when doing a good job of person post matching, we should also pay attention to two kinds of person-fit mismatch, that is, insufficient ability and excess qualification (Wang et al., 2021). Plus, trust in subordinates and the willingness to authorize can also help subordinates to give full play to their initiative and have a sense of belonging to the organization (Braun et al., 2013), a mutual trust, commitment, transparency and sincerity doctor-organization cooperative relationship is really important.

At the same time, it is necessary to identify key job demands, make scientific human resources development plans and reasonable flexible scheduling plans (Cai et al., 2020), arrange medical staff's working hours in an orderly manner, and reduce medical staff's work-family conflicts. Establish a delicacy human resource management system based on the job

rank system, which involves training and development system, evaluation system and salary system (Y. Zhou et al., 2020). Divide the development path of medical staff into clinical, scientific research and clinical research, and a diversified evaluation mechanism is established to weaken the weight of papers, scientific research projects and other requirements in the professional title evaluation of medical staff, so as to reduce the research pressure of medical staff. Front-line medical staff rely on the public to adhere to public health guidance and prevent the spread of the virus during the epidemic, thereby reducing their potential workload (Sumner & Kinsella, 2021). The managers are also expected to pay full attention to the influence of social factors on the working state of medical staff, and guide the public to strengthen their compliance with public health and epidemic prevention policies through publicity and mobilization, and jointly fulfill their social obligations. Make emergency plans for medical crimes, strengthen hospital safety management, and advocate a culture of zero tolerance for violence against health workers. Establish a magnetic hospital (Sun & Hospital, 2012), create a high-quality nursing practice environment, improve the overall quality of the nursing team, and make nurses' work enthusiasm and job satisfaction in an ideal state.

Finally, this research has confirmed the influence of Confucian coping ideology on individual work status, but the influence of Confucianism on occupational environment is not only reflected in the individual, but also on the supervisors' leadership and organizational climate (Lin et al., 2013; Mak et al., 2009). Therefore, in practice, we can make full use of the positive effect of Confucianism from three aspects: organizational culture, leadership and individual. Hospital administrators should pay attention to the influence of the traditional Confucian culture on employees, and carry out long-term education and practice of Confucian culture in the organization, so that the Confucian coping thoughts can really penetrate into the hearts of employees.

1.4 Research design and research methods

1.4.1 Research design

The whole framework of this research can be divided into two parts. The first part is the theoretical part, which corresponds to two important parts, namely research questions and overall design, literature review and research hypothesis. The second part is empirical analysis, including specific research tools and data collection, data analysis and hypothesis-testing, as well as research conclusions and management implications. Generally speaking,

the empirical analysis in the second part is based on the theoretical research in the first part, as shown in Figure 1.1.
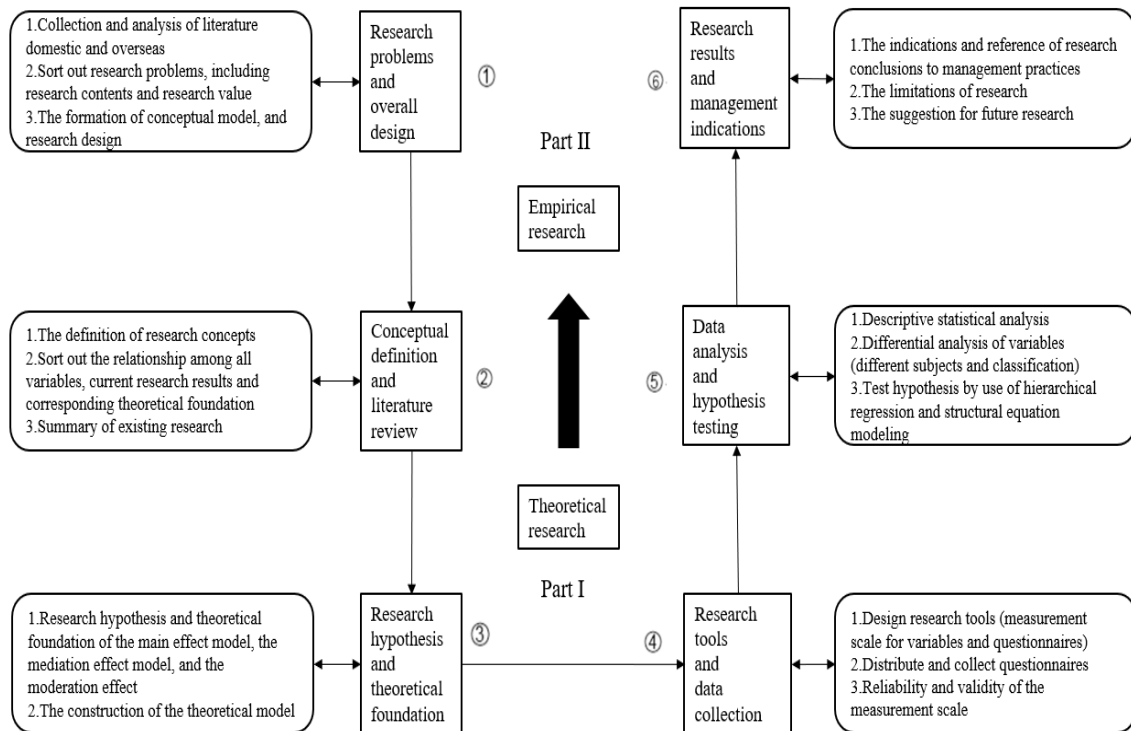
Figure 1.1 Basic flow of the research

The main contents of this research are divided into six chapters according to the overall research framework and the corresponding research process. First of all, it is the introduction of the research. On the basis of introducing the background of the research topic, it mainly introduces the main contents of the whole research and the construction of the basic framework, as well as the corresponding explanation of the research value and research process. The second chapter is literature review and research hypothesis, which analyzes the existing research literature around the research topic, and then puts forward the corresponding research hypotheses and theoretical model on the basis of relevant theories. The third chapter is the research tools and data collection, which mainly introduces the specific process of questionnaire and data collection, and makes necessary amendments on the basis of reliability and validity test. The fourth chapter is data analysis and hypothesis testing, which mainly uses statistical analysis tools to empirically test the research hypothesis put forward in the third chapter. The fifth chapter is the research discussion and enlightenment, mainly discussing the empirical research results of the fourth chapter, and analyzing the specific enlightenment in theory and management practice. The sixth chapter is the summary, which summarizes the whole research conclusion, points out the shortcomings, and puts forward corresponding suggestions for future research.

1.4.2 Specific research process

1.4.2.1 Information collection

(1) Literature research

The researcher conducts research literature database from home and abroad, Chinese databases include: CNKI, Wanfang, CQVIP and so on, while international ones are Web of Science, PubMed, and Google Scholar search engine, websites of official health institutions at home and abroad, etc. Search the relevant contents of job burnout, job engagement, job demand-resource theory, especially in the medical field, and focus on the research and practice of job burnout and job engagement of medical staff.

(2) Information collection

① Selection of sampling area

The research object of this research is the medical staff (including practicing physicians, registered nurses, pharmacists and technicians) of tertiary public hospitals in Guizhou Province, where 34 tertiary public hospitals are located. Combined with the number of tertiary public hospitals in various administrative areas of Guizhou Province, this research takes administrative divisions as the stratification basis, and fully considers the cooperation degree of the respondents. Finally, 14 tertiary public hospitals in 9 prefectures and cities of Guizhou Province are selected for research.

② Determination of sample size

According to the *2021 China Health Statistics Yearbook*, there were 100,446 urban health technicians in Guizhou Province in 2021. According to the principle of sample number calculation in the book *Questionnaire Statistical Analysis Practice-SPSS Operation and Application* edited by Wu Minglong (2010) for a limited population, the sample size formula is as following: simple random sampling and systematic sampling, the sample content estimation calculation formula is as follows, where N is the total sample number, and p is constantly set to 0.5, because the most reliable sample size can be obtained when set to 0.5.

$$n \geq \frac{N}{\left(\frac{\alpha}{k}\right)^2 \frac{N-1}{p(1-p)} + 1} \tag{1.1}$$

In the field of behavior and social science, the significance level is generally set at 0.05 ($\alpha=0.05$). When the significant p value of statistics is less than or equal to α, the null hypothesis is rejected and the opposite hypothesis is accepted. When the statistical significance p value is greater than α, the null hypothesis is accepted and the opposite

hypothesis is rejected. There is no significant correlation between variables or the difference between group averages, which means that the research hypothesis cannot be supported. When the significance level is 0.05, the confidence of interval estimation is 1-α = 0.95, and the quantile k=1.96. In this study, N=100,446, and the significance level α is set to 0.05. When the confidence interval is 1-0.05=0.95, k = 1.96, $p = 0.05$, and the number of sampled samples should be at least 385. Considering the sampling errors and lack of information, the number of samples was increased to 2,000.

③ Sampling method

The stratified sampling principle was adopted in this research. The sample size of each hospital was determined proportionally according to the total number of staff in each sample hospital. The sample size of each position was determined according to the ratio structure of healthcare staff in the hospital of Guizhou province. In this research, a total of 2000 questionnaires were distributed and 1705 questionnaires were collected, among which 1653 were valid, with an effective rate of 82.65%.

④ Questionnaire

The content of questionnaire covers mainly six parts, i.e., the demographic information, job demands, job resources, job burnout, job engagement and individual Confucian style coping approaches of the respondents.

The demographic variables included sex, age, education level, years of working in the current hospital, position, professional title, number of hours worked per week, number of nights on call per week, specialty, way of employing.

Job burnout was assessed via a seven-item Chinese version of the work-related burnout scale from the Copenhagen Burnout Inventory (Kristensen et al., 2005).

Job engagement was assessed via a nine-item Chinese version of the Utrecht Work Engagement Scale (UWES-9) (Schaufeli et al., 2006).

Job demands were assessed via a questionnaire that included 18 items, these 18 items were grouped into 5 factors: workload (Veldhoven & Meijman, 1998), work-home conflict (Fein & Skinner, 2015), research stress (Zhou, 2009), perceived public disunity was developed ad hoc, workplace violence (D. Zhang et al., 2016).

Job resources were assessed via a questionnaire that included 18 items, these 18 items were grouped into 5 factors: perceived career opportunity (Jingyun et al., 2017), person-job fit (Singh & Greenhaus, 2004), organizational status perception (Shan et al., 2015), interpersonal relationship (Wang et al., 2017), organizational justice (Jordan & Turner, 2008).

Personal resource. Confucian coping was assessed via a 15 items Chinese version of Confucian coping questionnaire (Jing, 2006).

1.4.2.2 Statistical analysis

SPSS 26.0 and M plus 8.3 are adopted to conduct statistical analysis of data. Two independent sample T-test is used to analyze the variations of the average levels of variables between different sex, and among employment types, educational background and job positions, and one-way ANOVA is used to analyze the variations of the average levels of variables among different ages, professional titles, working tenures, working hours and weekly night shifts. The latent variable structural equation model (SEM) is established by Mplus8.3. Firstly, it discusses the influence of job resources and job demands on job engagement and job burnout of medical staff, and further discusses the influence of each dimension of job resources on job engagement and job burnout, as well as that of each dimension of job demands on the two. The second is to explore the mediating role of job engagement among job demands, job resources and job burnout. Thirdly, through Mplus8.3, a latent variable adjustment model is established to explore the adjustment function of coping approaches based on Confucian thoughts.

Chapter 2: Literature Review

2.1 Introduction

This chapter mainly includes five parts. The first part reviews the concept, dimensions, formation mechanism and measurement methods of job burnout, and summarizes the influencing factors of job burnout of medical staff. The second part mainly summarizes the concept, dimensions, formation mechanism and measurement methods of job engagement, and reviews the influencing factors of medical staff's job engagement. In the third part, the theoretical background, the author reviews the proposal and development of JD-R model, expounds job demands, job resources and their roles in JD-R model, and reviews the research status of JD-R model in medical and health industry. The fourth part is a review of the previous research made by the author, which analyzes the gaps and shortcomings in the current research. The fifth part is the hypotheses and conceptual model of this study.

2.2 Research on job burnout

2.2.1 Concepts and dimensions of job burnout

The relationship between people and job, and the negative effects caused by problems in it, has long been regarded as an important issue in modern society. From the 1970s, people engaged in human services started to use the term "burnout" in the United States. "Burnout" initially was a very unstable concept, without a standard definition.

Freudenberger (1974), a famous clinical psychologist from the US, first put forward "Staff Burn-Out" in 1974. However, instead of giving a clear definition of "staff burn-out", he described the exhausted emotional experience of volunteers in clinics, and discussed the concrete manifestations of staff burnout from two aspects, namely physiological and behavioral indicators. Freudenberger proposed prevention and intervention measures of job burnout. In 1976, American social psychologist Maslach gave job burnout a definition from a holistic perspective (Maslach, 1976, 1993): it is a long-term psychological state related to work stress, i.e., a feeling of physical and mental exhaustion and rejection of job under the pressure. Maslach put forward a theoretical model of job burnout for the first time.

Maslach's three-dimensional model (Maslach & Jackson, 1981) is a widely accepted

dimension division of job burnout, including emotional exhaustion, depersonalization and reduced personal accomplishment. Among them, emotional exhaustion refers to the exhaustion of emotional response and physical vitality due to excessive fatigue, which leads to the loss of enthusiasm for work, frequent feeling of exhaustion, and even aversion to work; depersonalization refers to an individual's indifference and callousness towards work, especially towards colleagues at work; reduced personal accomplishment means that individuals lack accurate self-efficacy judgment, then they would lose self-confidence and continue to deny the value of self-existence. Maslach's three-dimensional model deeply reveals the essential structure of job burnout, which lays a theoretical foundation for developing job burnout measurement tools and further empirical research on job burnout.

In 1982, Sack (1982) defined job burnout from a dynamic perspective, which includes three stages: (1) job stress involving an imbalance between resources and demands; (2) the strain of this form of stress as manifested by feelings of tension, fatigue, exhaustion; and (3) changes in attitude as a result of strain, such as emotional withdrawal, cynicism, and rigidity.

After 1980s, job burnout emerged into the sights of scholars, research in this field started to be expanded as well. In 1984, Brill (1984) separated job burnout from psychological issues, with which job burnout is easily being confused. He pointed out that burnout can be defined as an expectivelly mediated, job-related, dysphoric and dysfunctional state in an individual without major psychopathology who has (1) functioned for a time at adequate performance and affectual levels in the same job situation and who (2) will not recover to previous levels without outside help or environmental rearrangement. In 1988, Pines and Aronson (1988) proposed that job burnout is a symptom of emotional and energy exhaustion in the working situation of long-term emotional labor. From this research stage, sufficient books, manuals and academic journals emerged.

Since 1990s, with the increasing attention of scholars on job burnout, the target audience of job burnout research was further expanded. From previous occupations such as human services and education to other labor-intensive groups such as computer technology (Gulati & Khera, 2012; Zeng, 2008), military (Kong et al., 2012; Merisalu et al., 2013; Mollahadi. et al., 2020) and management personnel (Shin & Oh, 2017; Yun-Shan, 2013). At the same time, the research perspective and methods have also been innovated. In 1993, Lee and Ashworth (1993) considered that job burnout was a maladjustment caused by excessive demands on individual abilities and lack of job resources, and provided a preliminary idea for establishing a comprehensive model lof job burnout. In 2001, Demerouti et al (2001) put forward "the Job Demands-Resources Model" and adopted it in the explanation of job burnout.

By reviewing the related literature about job burnout, the author observed two relatively independent flows: (1) Treatment of job burnout based on practice, and various solutions. (2) Academic research, trying to explore causes of burnout and its mechanism.

2.2.2 Formation mechanism of job burnout

The development and perfection of the concept and dimensions of job burnout has led the research of it to a more in-depth level. Many studies have begun to explore the variables of job burnout, trying to reveal the formation mechanism of job burnout from various perspectives, and achieving important results and progress. This research will further sum up previous research results into job demands at the environmental level - from resource perspective, role pressure perspective, cognitive perspective and personal trait perspective at the individual level, and Personal-Environment Fit perspective combining the above.

2.2.2.1 Formation mechanism of job burnout at the environment level

2.2.2.1.1 Perspective of the Job Demands-Resources model

The Job Demands-Resources Model proposed by Demerouti et al. in 2001 points out that all factors related to work can be roughly divided into two categories: job demands and job resources. Demerouti (2001) defines job demands as "the demands of work on individual's physiological, psychological and social skills, and the factors that require individuals to make corresponding efforts or costs to complete the work", that is, the "negative factors" that consume individual energy in work, such as work noise, workload, time pressure and so on. On the contrary, job resources are "positive factors" in work, which are defined as factors related to physiological, psychological, social, or organizational aspects and having one or more of the following functions: (1) Promoting the realization of work objectives; (2) Reducing job demands and related psychological and physiological costs; (3) Promoting personal growth, learning and development. Common job resources at the organizational level include job control, potential promotion opportunities, decision-making participation, and task diversity, while those at the social level usually come from the support of colleagues or family members.

From the perspective of this research, the factors related to job demands will cause sustained physiological and psychological costs to individuals, thus leading to physical and psychological exhaustion of individuals. All kinds of job resources that individuals obtain from organizations and society can effectively alleviate this problem and promote the positive

growth of individuals. Therefore, when the job resources available to individuals cannot meet job demands for a long time, job burnout will occur.

2.2.2.1.2 Perspective of role pressure

The related research system from the perspective of job demands-resources reveals the influence mechanism of job-related demands and resource elements in the internal environment of the organization on individual job burnout, but ignores the consideration of related elements in the external environment of the organization, such as family, social roles and their cross-influence with job roles. Just as it happens, based on the role stress theory (Schaubroeck et al., 1989), part of the research explores the influence of the pressures (demands) that individuals bear on their job burnout in various role environments. Bacharach (2010) pointed that work-based role conflict was an important antecedent of work-home conflict, and increased burnout was an important direct consequence of work-home conflict. Research (Ma et al., 2019) about occupational burnout among physicians in China indicated that role conflict had direct positive effects on emotional exhaustion (EE) and depersonalization (DP), and role ambiguity had direct positive effects on DP and decreased personal accomplishment (DPA). Kilroy et al.(2016) found that role conflict and role overload is positively correlated with emotional exhaustion and depersonalization of job burnout, and play as the mediator in the relationship between high-involvement work practices (HIWPs) and job burnout; Konstantinou et al. (2018) carried out an empirical research to support that role conflict is the most important predictive factor of emotional exhaustion and depersonalization, which role ambiguity is the most factor to predict the sense of achievement.

Therefore, we regard this part of the research as the role stress perspective research under the external environment of the organization. From this perspective, when role conflict, role ambiguity, and role overload are triggered by individuals playing different roles in the organization, the role pressure will happen to individuals, and then the job burnout as well.

2.2.2.2 Formation mechanism of job burnout at individual level

Although the related studies from the perspectives of job demands-resources and role pressure better reveal the formation mechanism of job burnout, these studies only pay attention to the internal and external environmental factors of the organization, i.e., the external resources of the individual, without considering the possible influence of the internal factors of the individual on job burnout (Demerouti et al., 2001). With the deepening of research in this field, many scholars began to explore the antecedent variables of job burnout from the individual level, among which the cognition and traits of individuals received the most attention. Therefore, based on the cognitive theory and trait theory, the author summarized

this part of the research into the cognitive perspective and the personal trait perspective at individual level.

2.2.2.2.1 Perspective of cognition theory

The formation of job burnout involves the influence of a series of job-related factors on individual psychology, which is bound to be closely related to individual cognition. Cognition reflects the collection, evaluation, and processing of information and the behavioral response based on this cognition of individuals. However, individuality in cognition would be manifested as different physiological and psychological responses to factors (such as stress) that may cause job burnout (Forman, 1983).

From the cognitive perspective, the locus of control, sense of value, and sense of organizational justice of individuals are the key factors that affect job burnout. Chen et al. (2014) explored the relationship between job burnout and locus of control of teachers in higher vocational colleges. The empirical results show that the degree of job burnout of teachers with internal control is lower than that of opportunistic teachers. Liu et al. (2005) pointed out that the matching of values and goals between individuals and organizations has a significant impact on the job burnout of employees. The lower the matching degree, the higher the job burnout level of employees. As an important part of cognition, motivation is also an important factor affecting individual job burnout. For example, Rawolle et al. (2016) pointed out in their research that individuals usually choose the work to be done, the specific objectives and tasks of the work according to their explicit needs (external motivation) such as salary, position, and other factors. The career choices made by individuals without realizing their own essential needs (internal motivation) are largely at risk of inconsistency between internal and external motivation, which will eventually lead to a higher level of job burnout through individual internal motivation.

2.2.2.2.2 Perspective of personal traits

As a complex psychological and physiological structure determined by genes, personality traits are used to reveal individual behavior rules and explain why individuals react differently to the same phenomenon, and this difference will have an important impact on individual experience and behavior (Shan et al., 2017). Similar to the mechanism of action of individual cognitive factors on job burnout, individual intrinsic and personal traits vary from person to person. That makes individuals who are engaged in the same job and bear the same degree of pressure have different psychological feelings, which brings different influences on their work status. The Five Personality Traits comprehensively depict the dimension structure of personality traits, including extroversion, neuroticism, agreeableness, conscientiousness, and

openness to experience (Norman, 1963).

Based on this model, some scholars have analyzed the relationship between different trait dimensions and job burnout. Mills et al. (1998) believed that neuroticism was significantly related to job burnout, extraversion was related to emotional exhaustion and occupational efficacy dimension of job burnout, agreeableness was related to emotional exhaustion and cynicism dimension, and sense of responsibility was related to emotional exhaustion dimension. Jiang et al. (2021) explored the influence of personality traits on job burnout of grass-roots civil servants. Personality traits have a significant impact on job burnout of grass-roots civil servants, which are as follows: personality traits of openness, conscientiousness, extraversion and agreeableness are negatively correlated with job burnout of grass-roots civil servants, while neuroticism is positively correlated with job burnout of grass-roots civil servants. Zhou et al. (2011) studied the relationship between the BFI traits of administrative employees and job burnout, and believed that neuroticism had a positive predictive effect on the emotional exhaustion and cynicism dimension of job burnout, agreeableness had a negative predictive effect on the emotional exhaustion dimension, while sense of responsibility had a negative predictive effect on the cynicism and low career efficacy dimension, and extroversion had a negative predictive effect on the low career efficacy dimension. There is no significant correlation between openness and job burnout. Another study on the relationship between the top five personality traits, coping strategies and emotional problems such as depression and anxiety during the COVID-19 pandemic showed that (Gashi et al., 2022), there is a significant correlation between Big Five personality traits (extraversion and neuroticism) and coping strategies (seeking social support and avoidance), as well as there is a correlation between Big Five personality traits (compliance and neuroticism) and emotional problems (symptoms of anxiety and depression).

2.2.2.3 Perspective of Person-Environment Fit theory

Person-environment fit is a multi-dimensional perspective. Broadly defined it as the compatibility between an individual and his or her work environment that occurs when the characteristics are well matched (Kristof-Brown et al., 2005). The Person–Environment fit (PE fit) approach states that a fit between the person and the environment results in positive outcomes (e.g., job satisfaction, job performance), while their misfit produces psychological, physiological, and behavioral strains (e.g., dissatisfaction, burnout). Four types of fit have been defined, covering the main components of employees' work environment (Kristof-Brown et al., 2005a): person–job (PJ fit), person–organization (PO fit), person–group (PG fit),

and person–supervisor (PS fit). Based on this theory, PE fit became a core concept in research on job satisfaction and job stress. However, reviews on the impact of fit on employees work-related outcomes could not distinguish between PJ fit and PO fit and paid little attention to the more recent dimensions PG fit or PS fit. Besides the four types of mismatches mentioned above may lead to burnout. Maslach (1998) also expanded this theory, shedding light on burnout due to unfit in six dimensions: work overload, lack of control, insufficient reward, breakdown of community, absence of fairness, value conflict. Chuang et al.(2015) conducted qualitative research to explore the influence of cultural factors on PE fit, and expanded the use of this theory in oriental context. They suggested an integrated Chinese model of PE fit that constitutes five dominant PE fit themes: competence at work, harmonious connections at work, balance among life domains, cultivation, and realization. Many previous studies all proved that PE fit is the predictive factor of job burnout and pressure (Andela & van der Doef, 2018; Rafferty, 1987; Tong et al., 2015; Waszkowska et al., 2014).

It can be concluded from the above explorations that the research of antecedent variables of job burnout at home and abroad mainly focuses on the environmental level and the individual level. The research at the environmental level sheds light on revealing the forming mechanism of job burnout from the perspectives of job demands-resources and role stress, while the research at the individual level suggests more on analyzing the influence of individual cognition and traits on job burnout. In the perspective of person-environment fit, more emphasis is placed on "fit" per se and the relative state of the individual and the environment, while ignoring the influence of specific stressors. Although these studies have achieved a large number of results, revealing the impact of environmental and individual factors on job burnout in a relatively comprehensive way, there are still gaps in which valuable research issues can be explored by scholars in the future. On the one hand, the systematic research on the forming mechanism of job burnout still needs to be strengthened. On the other hand, although the existing research took consideration of environmental factors and individual factors when revealing the causes of job burnout, yet most of them are discussed separately, and lack of integrated analysis of the two levels of factors.

2.2.3 Measurement of job burnout

2.2.3.1 The Maslach Burnout Inventory, MBI

The most frequently employed tool of job burnout measurement is the Maslach burnout inventory (MBI). There are currently three versions of MBI: The MBI-human services survey

(MBI-HSS), the MBI-educators survey (MBI-ES) and the MBI-general survey (MBI-GS). The MBI assesses (1) emotional exhaustion, the state where as emotional resources are depleted, workers feel they are no longer able to give of themselves at a psychological level; (2) depersonalization, the development of callous or even dehumanized perception of others; and (3) personal accomplishment, the sense of competence and successful achievement in one's work with people.

The first version of the MBI is the MBI-human services survey (MBI-HSS), and has been initially developed to assess burnout among human service professionals (Maslach & Jackson, 1981). Unfortunately, its use is limited to professions in which contact with other people constitutes a major part of the tasks.

The second version of the inventory, the MBI–educators survey (MBI-ES), was developed to measure burnout among people working in any educational setting (C. Maslach et al., 1996). The MBI-ES is the same as the MBI-HSS; the only difference between the two inventories is that in some items the word "recipient" has been changed to the "student" (Osei et al., 2018). Meanwhile, the reliability and validity of MBI-ES was also proved (Kokkinos, 2010; Osei et al., 2018).

With the deepening of job burnout research, its connotation has gradually broken the boundary of the traditional human service industry. In order to achieve this breakthrough, the third version of the inventory, the MBI-general Survey (MBI-GS), was developed to be used on people who are not from human services and education industries (Schaufeli et al., 1996). MBI-GS greatly promoted the study of job burnout among different occupations. However, some researchers believe that MBI has certain limitations; for example, all items in MBI are expressed in one direction (Demerouti et al., 2010), and the relationship among the three dimensions of burnout syndrome is unclear, the weights are unequal and the definition is vague (Kristensen et al., 2005). Plus, the three questionnaires (including the MBI-ES for teachers) are not in the public domain but distributed by a commercial company.

2.2.3.2 The Burnout Measure, BM

The Burnout Measure (BM) is acknowledged as the second most used for self-report measure of burnout after the MBI. BM was developed by Pines and Aronson (1988) to assess the core element of burnout, exhaustion, and to use it with all occupations. The instrument consists of 21 items divided into three types of exhaustion (physical, emotional, and mental exhaustion), 17 of the items are negatively worded questions and the rest positively to measures the levels of physical, emotional, and mental fatigue. In 2005, Pines developed a shorter and a more

comprehendible variation of the BM, i.e., the BMS, to answer the needs of researchers and practitioners of an easier-to-be-used tool. With BMS, it needs less questionnaire space and less time to handle and score (Malach-Pines & Ayala, 2005). The BMS composes a 10-item selected from BM and are arranged under the contextual principle of 21-item BM, which assesses an individual's physical, temperamental and psychic exhaustion levels.

2.2.3.3 The Copenhagen Burnout Inventory, CBI

The Copenhagen Burnout Inventory (CBI) is a questionnaire with three sub-dimensions: personal burnout, work-related burnout, and client related burnout. The three separate parts of the questionnaire were designed to be applied in different domains. The questions on personal burnout were formulated in a way that everyone can answer (a truly generic scale). The work-related burnout questions assume that the respondent has a paid job of some kind. Finally, the client-related burnout questions include the term client (or a similar term when appropriate such as patient, student, inmate).

Personal burnout is mainly used on comparison focusing on individuals while excludes influencing factors of positions and work (the degree of physical and psychological fatigue and exhaustion experienced by the person); work-related burnout is used on assessing the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work; client-related burnout is used on the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work with clients. By comparing the scale for personal burnout with the scale for work-related burnout and client-related burnout, it will be able to identify persons who are tired but who attribute the fatigue to non-work factors, such as health problems or family demands (Kristensen et al., 2005).

The CBI has been translated into a number of languages (English, Japanese, Mandarin, Cantonese, Swedish, Finnish, French, Slovenian) and is currently being used in many countries. Its reliability and validity have been approved by many relative researches (Montgomery et al., 2011; Piperac et al., 2021; Thrush et al., 2020)

2.2.3.4 The Oldenburg Burnout Inventory, OLBI

In order to address some issues of MBI, Demerouti et al. (2003) developed the Oldenburg burnout inventory (OLBI) The OLBI can be used in any occupational context and includes two dimensions: exhaustion and disengagement from work. Moreover, both scales contain positively and negatively worded items. In contrast, the OLBI features questions have symmetrical confirming and dissentient formulation. The Oldenburg burnout inventory

consists of two dimensions: exhaustion and disengagement from work. The exhaustion dimension comprises not merely the affective aspects of fatigue as the MBI and MBI-GS but incorporating physical and intellectual features of the exhaustion. Each subscale of the OLBI consists of eight items, and each subscale consists of quaternary questions worded positively and quaternary questions worded negatively, and every component has quadruplet response alternatives, varying from 1 (totally disagree) to 4 (totally agree).

As for the validity of the OLBI, Demerouti et al.(2003) investigated the factorial and merging rigor of OLBI and MBI-GS of 232 people from different occupations, which supported the three-dimension structure of MBI-GS and two-dimension structure of OLBI. Halbesleben and Demerouti (2005) also tested the reliability and validity of the English version of OLBI on 2599 employees from the US.

2.2.3.5 Measurement of job burnout for health professionals

With the deepening of job burnout research, burnout scales for various specific groups are constantly updated. Maslach et al.(1996) developed Maslach burnout inventory-human services survey for medical personnel (MBI-MP) scale based on Maslach burnout inventory-human services survey (MBI-HSS) scale in 1996. Similar to the change of MBI-GS(S), while retaining the three-dimensional structure, the service recipient in the item is changed from "client" by "patient", and the changed item is more in line with the working characteristics of medical staff, such as "I do not care what happens to my patient". The emotional exhaustion dimension includes 9 items, depersonalization includes 5 items, and self-efficacy includes 8 items. The Likert 7-point rating scale is adopted.

Researchers believe that optimal tools should capture not only aspects of distress, but also dimensions of well-being. MBI、OLBI and another indicator of job burnout only focus on burnout, they failed to depict a holistic picture of sense of happiness of physicians. Consequently, there are more and more specialized measurement on this field of research, replacing job burnout of physicians with sense of happiness (Glasheen, 2011; Shanafelt et al., 2016). To address this gap, a team of physicians at a large academic medical center, in collaboration with national physician well-being researchers, has developed an alternative measure of physician well-being, the Professional Fulfillment Index (PFI), to assess both burnout (work exhaustion and interpersonal disengagement) and professional fulfillment in physicians (Trockel et al., 2018). PFI measured job burnout and professional fulfillment in the past two weeks, which had positive effect on evaluating the effect of short-term level of fulfillment and short and long-term level of prevention. The PFI is similar to the MBI in that

is includes two negative valence scales and one positive valence scale. However, the professional fulfillment scale is constructed to measure several intrinsic fulfillment factors not captured by the MBI Personal Accomplishment Scale. A study involving 250 clinicians showed that PFI had good internal consistency and test-retest reliability, and had good correlation with other widely used measurement tools (Trockel et al., 2018).

In addition to the specific scale for medical staff, an Australian study on dental job burnout compares CBI with MBI, and draws a conclusion that, the Copenhagen Burnout Inventory possesses excellent psychometric properties and seems to be an appropriate measure of burnout in populations of health professionals (Winwood & Winefield, 2004).

2.2.4 Influencing factors of job burnout of medical staff

Many factors contribute to physical burnout according to the related research on medical staff's job burnout at home and abroad. In this section, the author focuses on reviewing the traditional factors that affect medical staff's job burnout. Similar to other industries' job burnout research, the influencing factors of medical staff's job burnout can be roughly divided into personal factors and conditional factors.

2.2.4.1 Individual factors

Cross-sectional studies on job burnout of medical staff at home and abroad found that job burnout of medical staff was influenced by demographic characteristics and other factors, such as sex, age, education level, marital status, children's age, spouse's occupation and so on (Dyrbye et al., 2010; Shanafelt & Hasan et al., 2015; TD et al., 2009; M. Zhang et al., 2016).

(1) Sex. A large number of studies have shown that the job burnout rate of female medical staff is higher than that of men (Amoafo et al., 2015; Hertzberg et al., 2016; West et al., 2018).

(2) Age. Younger age is independently associated with higher rates of burnout. Shanafelt et al.(2015) reported that physicians under the age of 55 are more than twice as likely to have burnout symptoms as those over the age of 55.

(3) Tenure. Physicians with more than 30 years' experience show a lower job burnout rate, while younger ones (after 10 years' practice) show a higher job burnout rate (Del Carmen et al., 2019).

(4) Education. A multivariate comprehensive analysis based on age, sex, interpersonal relationship and working hours per week shows that the highest education level of medical staff is also related to their job burnout (Del Carmen et al., 2019). The job burnout level of young and middle-aged talents with higher academic qualifications, higher technical titles is

relatively higher (R. Wang & Xu, 2021). Highest level of education completed also related to burnout in a pooled multivariate analysis adjusted for age, sex, relationship status, and hours worked per week (Tait D et al., 2012). Compared with high school graduates, individuals with the Doctor of Medicine degree (MD) or Doctor of Osteopathic Medicine degree (DO) were at increased risk for burnout, whereas individuals with a bachelor's degree, master's degree, or professional or doctoral degree other than an MD or DO degree were at lower risk for burnout.

(5) Family. Having children under the age of 21 will increase the risk of job burnout by 54%, and if the spouse/partner is a non-physician medical professional, it will increase the risk of job burnout by 23% (West et al., 2018).

(6) Personal characteristics (such as personality and interpersonal skills). A study on the mental health of physicians in semi-urban and rural areas in Turkey (2013) shows that: Neuroticism was identified as the best predictor of both emotional exhaustion and depersonalization. Many physicians possess a strong drive for achievement, exceptional conscientiousness, and an ability to deny personal problems. These attributes are advantageous for "success" in medicine; ironically, however, they may also predispose to impairment (Boisaubin & Levine, 2001). Personality factors (neuroticism and conscientiousness) have been found to predict both emotional exhaustion and the experience of work–home interface stress，higher levels of neuroticism correlate with more negative work-home interaction. A moderate level of conscientiousness seems to be optimal, whereas physicians with low or high levels of conscientiousness are more prone to stress related to work-home interference (Ole et al., 2007).

(7) Strategies to respond to pressure. Burnout was negatively related with problem-focused copping strategies, and positively with emotion-focused coping strategies. Fear of complaints and criticism also increases risks of job burnout (Hertzberg et al., 2016).

However, it seems that individuals who choose to become physicians are not naturally more susceptible to stress and burnout, which also emphasizes the importance of work, organization and medical system factors in the current crisis of physician burnout (Shanafelt & Noseworthy, 2017).

2.2.4.2 Conditional factors

Some factors in personal characteristics have been found to be related to job burnout. However, situational factors play a stronger role in the workplace than personal factors. More and more studies have shown that (Bakker & Leiter, 2010; Dzau et al., 2018; Shanafelt & Noseworthy, 2017), job burnout is largely driven by external factors, rather than personal

characteristics.

(1) Work intensity. High workload is a common feature of the medical industry, and it is also the number one burnout risk factor in a large number of researches on medical staff's job burnout (West et al., 2018). In 2019, *the White Paper on Chinese Physicians' Practitioners' Status* pointed out that domestic medical staff work long hours a week, the annual leave system is not well implemented, and they often take on duty and other tasks, especially frequent call duties (night call or weekend call), which also aggravates the burnout of medical staff (West et al., 2018). Long working hours and strong working intensity have led to a significant decline in medical staff's sense of autonomy and control over work, obvious work-family conflict, and prominent work pressure, which has seriously affected medical staff's mental health.

(2) Occupational risk. Hospital is a complex public place, with concentrated personnel, high mobility, turbid air, depressing atmosphere and so on, which all lead to the medical staff being in a relatively bad working environment. Moreover, medical workers are faced with threats from nuclear radiation, ultraviolet rays, X-rays, viruses and bacteria every day, and all kinds of patients also lead to a high concentration of viruses such as hepatitis B, hepatitis C and influenza, which can easily cause adverse reactions in human bodies, and the possibility of being infected is much higher than that of the general population (She, 2019). Medical waste and other issues will also directly threaten the health of medical staff. Medical personnel bear higher risks in this environment, and the harsh working environment also increases the pressure on medical personnel.

(3) Professional. There are also significant differences in job burnout among physicians in different professions, and the job burnout rate of specialists in the front line of medical treatment at home and abroad, such as General Internal Medicine, Family Medicine and Emergency Medicine, is higher (Tait D et al., 2012). In recent years, the occupational fatigue rate of surgeons has also increased sharply (Dimou et al., 2016). In a systematic review, Pulcrano et al.(2016) noticed that the incidence of job burnout is different in different surgical specialties and the risks of plastic surgery, general surgery and vascular surgery may be higher.

(4) Clinical empathy. Because of the particularity of medical staff's work, they will face birth, death and illness every day, and their clinical empathy will have a great impact on medical staff's work. Medical staff's high attention to patients' emotions may lead to "empathic fatigue", which may occur when patients cannot be saved from harm. For example, in the face of the elderly who are suffering from functional loss, loneliness and dying, medical staff may feel guilty or painful. When empathy is associated with empathy-based guilt, it will

lead to greater empathic fatigue and job burnout (Yuan et al., 2019). On the contrary, some studies have found that appropriate clinical empathy can improve the psychological endurance and job satisfaction of medical staff, thus reducing the risk of burnout (Halpern, 2012; Xie et al., 2011). It can be seen that clinical empathy and job burnout are not a single relationship. Moderate empathy can improve the job satisfaction of clinical medical staff and reduce the risk of job burnout. However, excessive empathy may lead to the overload of medical staff at work, which eventually hinders the interaction with patients and increases the risk of burnout.

(5) Promotion of professional title. Medical personnel are knowledge-intensive workers, and it takes years of professional study, training and practice to become qualified physicians. The title of a physician is directly related to his own income, workplace status and other factors, and the evaluation of the title often requires a large number of scientific research topics, academic papers and professional technical tests. "Busy clinical work during the day and busy writing papers at night" can stand out and become a true portrayal of Chinese physicians, which has also become one of the main stressors of medical staff, especially junior medical staff (Feng et al., 2020; Jiang et al., 2020; Shan et al., 2021). At the same time, the medical staff's interest in this major, their interest in scientific research, whether they can catch up with the development of medical knowledge and their enthusiasm for voluntary learning are also significantly related to job burnout (S. Jiang, 2019).

(6) Interpersonal relationships. Medical staff has to deal with all kinds of contradictions and conflicts between physicians and patients, between superiors and subordinates, and between medical technicians. At present, most hospitals implement the last elimination and competition for posts, and improper handling of the relationship between superiors and subordinates and the relationship between physicians and nurses and medical skills may affect the appointment of positions and professional titles, and may even affect clinical diagnosis and treatment and cooperation. Coupled with the phenomenon of "robbing people" constantly staged among major hospitals, the introduced talents also put some pressure on the original physicians (She, 2019). The physician-patient relationship is also an important factor that affects the job burnout of medical staff (Zhao et al., 2019). The better the physician-patient relationship, the lower the job burnout. However, in recent years, the contradiction between physicians and patients is prominent, the time of medical injuries is frequent, the practice environment is deteriorating, and the social support is insufficient and the social expectations are too high, so that the legitimate rights and interests and personality of medical staff cannot be basically guaranteed and respected, which greatly dampens the professional feelings of medical staff (Wang et al., 2011).

(7) Leadership style. Managers' leadership style had significantly inverse relationship with job burnout in staff (Safi et al., 2016). Mayo Clinic carried out a study on the relationship between supervisor's leadership and job burnout and job satisfaction of physicians, and the results showed that, supervisor scores in leadership strongly correlated with the burnout and satisfaction scores of individual physicians, each 1-point increase in composite leadership score was associated with a 3.3% decrease in the likelihood of burnout ($p < .001$) and a 9.0% increase in the likelihood of satisfaction ($p < .001$) of the physicians supervised. The mean composite leadership rating of each division/ department chair also correlated with the prevalence of burnout and satisfaction at the division/ department level (Shanafelt & Gorringe et al., 2015). Harms et al. (2017) discussed the relationship between transformational leadership, leader-member exchange leadership and abusive leadership and subordinates' stress and burnout, and confirmed that leadership stress affects leadership behavior, leadership behavior and leader-follower relationship are important determinants of subordinates' stress and burnout, and three aspects of job burnout are negatively correlated with self-reported transformational leadership, while low personal achievement shows the strongest negative correlation.

(8) Organizational culture. Negative perceived organizational culture is the strongest predictor of job burnout (Seay-Morrison et al., 2021). Nasiripoor et al. (2008) investigated the relationship between organizational culture and productivity in public hospitals affiliated to Iran University of Medical Sciences, and the results showed that there was a significant relationship between organizational culture and productivity. Haghani (2012) further refined the four dimensions of organizational culture (entrepreneurial culture, engaging culture, mission culture, and bureaucratic culture) and employee job burnout, pointing out that entrepreneurial culture, involvement culture and mission culture are negatively correlated with job burnout, while bureaucratic culture is positively correlated with job burnout, and promoting solutions at the organizational and cultural levels is more conducive to solving job burnout of medical staff (Dzau et al., 2018).

(9) Clerical burdens. Recently, the American Journal of Medical Economics released the third annual survey report on physicians' job burnout and health. The survey results showed that according to the 10-grade score, the respondents' job burnout score was 6.8 points. 94% of the physicians interviewed said they had felt job burnout, and 80% said they were in this state at present. Among the main influencing factors, "medical supervision has increased many unnecessary demands for written records" ranked first, and 31% of the respondents chose this item. The research on the relationship among electronic environment, paperwork

burden and job burnout of American physicians by Shanafelt and other scholars also confirmed this point (Shanafelt et al., 2016). The 6,375 physicians surveyed were less satisfied with the time spent on paperwork and had a higher risk of job burnout.

(10) Ever-present electronization of medicine. A recent physician survey (John D Kelly, 2018) noted that the top three causes of burnout were too many bureaucratic tasks, followed by too many work hours and increasing computerization. The ever-present "electronization" of medicine have intruded into the once sacred bond between physician and patient. A review of research on job burnout of medical staff in the United States also pointed out that comprehensive documentation in electronic medical records is one of the main risk factors of job burnout of medical staff (West et al., 2018). Another study on the related trends and influencing factors of job burnout of medical staff in large teaching hospitals surveyed 1,774 physicians in 2014 and 1,882 physicians in 2017, respectively. The higher job burnout rate recorded in 2017 may be due to the implementation of the new electronic health record system (EHR) in the surveyed institutions. In the two surveys in 2014 and 2017, the time spent on administrative tasks was positively correlated with the higher job burnout risk (Del Carmen et al., 2019). Other scholars also recorded similar findings. In a national study with 6375 physicians, 5389 (84.5%) of them used electronic health records (EHR) and computerized physician order entry (CPOE), and they held a relatively low level of satisfaction towards HER and CPOE, a high level of job burnout (Shanafelt et al., 2016). Statistically, for every hour spent on patient interaction, the physician has an added one-to-two hours finishing the progress notes, ordering labs, prescribing medications, and reviewing results without extra compensation (Wright & Katz, 2018). A research on emergency physicians during the pandemic showed that，computer work/electronic medical record is the main source of stress of interviewed physicians (Marco et al., 2020).

(11) Income and treatment. The influence of income and treatment on medical staff's job burnout is mainly reflected in two aspects. First, in income distribution, knowledge level, job responsibilities, job risks and other factors are not enough. According to a survey from Jiang (2019), the average annual income ratio of specialized technicians, managers and workers in sample hospitals is 1:0.98: 0.65, and that of physicians, nurses, pharmacists and technicians is 1: 0.78: 0.78. The gap between different positions is generally less than one time, which is far lower than the gap between physicians and nurses (2.3-6.6 times) and physicians and laboratory technicians (2.4-6.3 times) internationally. Second, in terms of income level, the income of the vast majority of medical staff (especially junior medical staff) is generally low, and there is a big gap between them and joint-stock hospitals and medical device enterprises,

which, to a certain extent, causes a psychological gap among medical staff in public hospitals. At the same time, some media broke out that medical staff received negative news such as red packets and dereliction of duty, which caused insecurity among medical staff (She, 2019).

(12) The COVID-19. With the pandemic spreading globally, consistent monitoring and treatment on massive COVID-19 patients that are unpredictable and abnormal brings huge negative impact on medical staff. Many factors are contributing to the psychological distress of health care workers during COVID-19, such as the following: working in a totally new context, overwhelmed and exhausted by the workload and protective gear，psychological imbalance, emotional distress, substandard personal protection equipment (PPEs), uncertainty and fear of being infected and infecting others, witnessing patients' experiences and feeling powerless to handle patients' conditions, anxiety of the families, shortages of ventilators and other crucial medical equipment, limited access to mental health services, the relationship between patients and health-care providers trying to engage amid chaos (Arshid et al., 2021; Keohane, 2020; Liu et al., 2020). A survey of 1,300 emergency physicians shows that post-traumatic stress disorder (PTSD) is very serious, and the main sources of stress came from works related to COVID-19, computer work/electronic medical record, personal protective equipment concerns, and workload (Marco et al., 2020). Morgantini et al. (2020) investigated medical professionals (N = 2,707) from more than 60 countries. The strongest predictors of job burnout of medical staff during COVID-19 are working affecting household activities, exposure to Covid-19 patients, and having to make life prioritizing decisions in treatment. Furthermore, lack of adequate PPE was also related to burnout. In-depth interviews with front-line medical staff in five designated hospitals with novel coronavirus infection in Hubei Province, China, a considerable proportion of medical staff raised concerns about the effectiveness and use of personal protective equipment, saying that wearing protective equipment for a long time caused headaches and skin injuries, which aggravated the pressure they experienced when working in isolation wards (Liu et al., 2020). Moreover, protective equipment negatively affects the relationship between medical staff and physicians and patients, impairs effective interpersonal communication, causes interpersonal alienation and increases the anxiety and burnout of medical staff (Litvak, 2008; Marjanovic et al., 2007). In addition to interpersonal alienation caused by wearing PPE, front-line medical staff must accept long-term isolation, away from society and family. In the study of nurses during SARS epidemic, it was also found that isolation time was positively correlated with emotional exhaustion, anger and avoidance behavior, and those hospital employees who were isolated due to SARS virus reported higher symptoms of post-traumatic stress and more alcohol

consumption (Litvak, 2008; Marjanovic et al., 2007).

In sum, the author includes influencing factors of job burnout of medical staff as follows: chronic fatigue, perceived threats, loss of autonomy, inefficiencies, balancing needs, chronic stress, new technologies, alignment of goals and values, physician factors, COVID-19 factors (See Table 2.1).

Table 2.1 Factors that may influence the development of physician burnout

Main Categories of Factors	Examples of Contributing Issues
Chronic fatigue	Excessive workload
	Sleep deprivation
	Clinical empathy
	Clerical burdens
	Constant access demands, e.g., electronic availability
	Decreased personal time
Perceived threats	Malpractice lawsuits
	Patient violence
	Medical error
	Reduced compensation
	Limited control over the practice
	Increased regulatory and maintenance requirements
	Research funding climate
Loss of autonomy	Practice environment
	Time to interact with patients constrained
	Misalignment with the work aspects perceived to be the most meaningful (career fit)
Inefficiencies	Administrative requirements
	Lack of support staff
	Practice organization/work flow
Balancing needs	Work-home conflicts
	Clinical service requirements and additional demands, e.g., in research, teaching, and administration
Chronic stress	Work pace
	Practice setting
	Degree of chaos/unpredictability in the workplace
New technologies	Electronic medical health records (information technology)
	Keeping up with technology advances in the practice
	Expectation of adoption and integration of virtual communication and social media tools
Alignment of goals and values	Physicians and leaders
	Physicians and organizational culture
Physician factors	Negligence regarding personal health and well-being
	Perfectionism, Conscientiousness, Neuroticism
	Internal drive and ambition
	Emotion-focused coping strategies
	Age, Sex, Education, Family, Specialty type
COVID-19 factors	Uncertainty and fear of being infected and infecting others
	Working in a totally new context,
	Protective gear
	Shortages of ventilators and other crucial medical equipment
	Isolation
	Having to make life prioritizing decisions in treatment
	Interpersonal alienation

2.3 Research on job engagement

With the deepening of burnout research, more and more scholars believe that managers should look at job burnout from different perspectives, and turn negative discussion about burnout into active discussion based on job engagement (Luo & Liao, 2007; Maslach, 2011). And it is found that, compared with the non-recession period, in the recession period, employees' job engagement is a more powerful index to predict organizational performance (Pendell, 2020; West & Dawson, 2012). Therefore, while solving job burnout, we should pay more attention to the work input of medical staff.

2.3.1 Concept and dimensions of job engagement

The first scholar who realized engagement at work was Kahn (1990), who defined work engagement as "organization members control themselves to combine themselves with their job roles". From Kahn's point of view, self and job role are actually interdependent and dynamic transformation processes. That is, when the work input is too high, the individual will put his whole heart into the work role and show himself in the role; When the job engagement is too low, the individual will pull himself out of the job role, so as to avoid creating the performance required by the organization, and may have the intention to leave.

In 1997, Maslach (1997), the pioneer in the study of job burnout, thought that job engagement and job burnout were completely opposite ends in the three-dimensional continuum of work-related health status, and their internal dimensions were the same, and these three dimensions were energy, engagement and efficacy. They argue that in the case of burnout energy turns into exhaustion, engagement turns into cynicism, and efficacy turns into ineffectiveness.

Schaufeli et al. (2002) thought that work engagement was an independent and completely different concept, and defined work engagement as a positive, fulfilling and work-related mental state characterized by vigor, dedication and absorption. Rather than a momentary, specific emotional state, engagement refers to a more persistent and pervasive affective-cognitive state. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one's work, and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time

passes quickly and one has difficulties with detaching oneself from work. Accordingly, vigor and dedication are considered direct opposites of exhaustion and cynicism, respectively, the two core symptoms of burnout (Schaufeli & Taris, 2005).

Based on the above scholars' viewpoints, we can find that although they all emphasize that work engagement includes emotional and cognitive aspects, they all affirm that work engagement can be expressed through individual specific work behaviors or other role activities. However, Kahn and Maslach relatively neglected the external behavior of work engagement. On the other hand, Schaufeli's deduction based on Kahn's theory and the concept of work engagement put forward by practical interviews affirmed that work engagement is a state related to emotion and cognition, and reflected the behavioral characteristics of individual's external performance – "dedication" in its dimension composition, which was recognized by more scholars.

2.3.2 Formation mechanism of job engagement

2.3.2.1 Perspective of job characteristics model

Hackman and Oldham (1976) put forward the Job Characteristics Model, pointing out the influence of job characteristics and key psychological state variables on job output. Hackman and others think that job autonomy, job integrity, job importance, job feedback and skill diversity are the five basic characteristics of the core job. They can produce three key psychological states (sense of job meaning, sense of job responsibility and understanding of job results), and then encourage employees to show their internal self-motivation, good job performance, high job identity, low absenteeism rate and turnover rate (Loher et al., 1985). According to this theoretical perspective (Hackman & Oldham, 1980), the intrinsic motivation of employees' work has a direct impact on the work output, and proper work design can motivate employees' intrinsic motivation. Any job can be measured by five dimensions: skill diversity, job integrity, job importance, job autonomy and job feedback. Among them, skill diversity refers to the degree of diversity of skills and talents that employees should possess to meet the job demands. Job integrity refers to the degree of tasks required to be completed and identifiable; Importance of work refers to the degree of influence of work on employees; Work autonomy refers to the degree of freedom of employees' independent determination of work contents and procedures; Job feedback refers to the extent to which employees can get direct and clear information about their work completion in the process of work.

2.3.2.2 Perspective of job demands-sources model

Job demands-resource model requires rich resources to build work input. The availability of job resources helps people to maintain vitality, dedication and concentration, especially in the face of high job demands (Bakker & Demerouti, 2007). According to this model, resources motivate employees internally by improving their growth and learning potential, and provide external incentives by enabling employees to achieve their work goals (Schaufeli & Bakker, 2004). Other studies have also found that job engagement is related to various job resources, including colleagues' support, supervisor's support, learning opportunities, diversity, autonomy, job control and innovation atmosphere (Schaufeli & Salanova, 2006). The most effective resource-oriented intervention is not only temporary injection, but constantly changing the working process. For example, a company redesigns its performance evaluation system, which is no longer based on annual formal assessment, but establishes a continuous guidance process focusing on employees' career goals. The process of setting goals, developing strategies and evaluating impacts has become an integral part of individual employees' work life. This has also become the basis for building rich relationships with their direct supervisors. This range of intervention will include the intrinsic motivation of personal development, as well as the external rewards to make their supervisors notice meaningful progress in their career goals on a regular basis. Ideally, this scale of intervention will stimulate a profit spiral. By introducing the revised performance evaluation system, employees will be more able to work, thus creating new resources, such as being widely recognized by professional colleagues. These new resources, in turn, could encourage more work input.

From the perspective of job resources, Bennett and Bell (2004) put forward the model of employee's high engagement, and pointed out that there are six factors that will affect whether employees will have high engagement, namely people, work, opportunity, procedures, compensation and quality of life. The first five items of people, work, opportunity and compensation can be attributed to work-related resource factors, while the Quality of life is the influence of family factors on work engagement. From this framework, Bennett & Bell neglected the influence of individual characteristics, such as psychological state, personality characteristics and motivation orientation on work engagement.

2.3.2.3 Perspective of individuals

Kahn (1990) believes that job engagement is mainly influenced by three psychological states: psychological meaning, psychological safety and psychological availability. May, et al. (2004)

conducted an empirical study based on Kahn's viewpoint, and the results showed that the above three psychological states all had significant positive effects on the individual's work engagement, among which psychological significance had the greatest influence, and also found that there was a significant positive correlation between self-awareness and work engagement. Personal positive emotion and positive mood have a positive influence on individual job engagement (Bledow et al., 2011); Some scholars take students as the research object, and find that students' self-efficacy is consistent with the change of their learning engagement (Ouweneel et al., 2013). Hu (2021) have discussed the influence of teachers' character advantage on their work engagement, and put forward that character advantage can not only directly affect teachers' work engagement, but also affect teachers' professional mission sense, thus affecting their work engagement.

Based on the above viewpoints, the related research from personal perspective focuses more on the related research fields of positive psychology, but does not pay attention to workplace factors. The job feature model puts forward that five job features can improve job input by influencing key psychological states, and reveals the intrinsic mechanism of job feature factors on job input and output from the perspective of intrinsic motivation. Although both the job demands-resources model and the job characteristic model emphasize that the positive factors (resources) related to work have intrinsic incentive function, which can stimulate employees' vitality and increase job engagement, the job demands-resources model does not restrict job resources, and even some empirical studies integrate personal resources into the job demands-resources model to explain job engagement (Broeck et al., 2011; Prieto et al., 2008), thus it has wider applicability.

2.3.3 Measurement of work engagement

2.3.3.1 The Utrecht Work Engagement Scale, UWES

Based on the definition of work engagement that includes vigor, dedication, and absorption, a three-dimensional questionnaire has been developed (Schaufeli & Salanova et al., 2002a). Meanwhile, the Utrecht Work Engagement Scale (UWES) is available in 31 languages. In addition to the original UWES that contains 17 items, a shortened version of 9 items is available (Schaufeli et al., 2006), as well as a student version (Schaufeli & Martinez et al., 2002). The UWES items are scored on a 7-point frequency scale ranging from 0 ("never") to 6 ("always").

A large number of researches on job engagement in different ethnic and cultural

backgrounds have confirmed the reliability and validity of UWES scale and the stability of its three-dimensional structure (Bakker & Leiter, 2010; Balducci et al., 2010; Seppl et al., 2009; Vasquez et al., 2015). Chinese scholar Zhang Yiwen et al. (2005) measured 277 middle school teachers with Chinese version of Utrecht Job Engagement Scale, SF-36 Health Survey Scale, COPE Coping Scale and middle school teachers' job characteristics questionnaire, and tested various reliability and validity indexes. Confirmatory factor analysis results verified the three-factor model of job engagement. The internal consistency reliability of each sub-scale is good, and the revised Chinese version of UWES has high reliability and validity, which can be used in China.

2.3.3.2 The Gallup Q12

Gallup, a well-known management consulting company in the US, has put forward and designed 12 core questions that can fully reflect employees' engagement through massive data collection, analysis and summary, and is called The Gallup Q12 questionnaire. The Q12 has been explicitly designed from an actionability standpoint. This means that in the development of the instrument, practical considerations regarding the usefulness of the Q12 for managers in creating change in the workplace have been the leading principle. In other words, the Q12 has been designed as a management tool. The Q12 items are scored on a 5-point rating scale ranging from 1 (strongly disagree) to 5 (strongly agree). In addition, a sixth, unscored response option is included (do not know/does not apply). The problems mainly focus on four aspects: controlling employee turnover, creating company profits, improving work efficiency and grasping customer satisfaction. However, careful analysis of the questionnaire questions shows that Q12 evaluates the level of resources perceived by employees at work, rather than his or her degree of dedication. For example, "I have the materials and equipment needed to do my job well", "I think my supervisor or colleague cares about my personal situation", "I think my opinions are valued at work" and "I have had the opportunity to learn and grow at work in the past year". As such, rather than the experience of engagement in terms of involvement, satisfaction and enthusiasm, the antecedents of engagement in terms of perceived job resources are measured.

2.3.3.3 The Medical Engagement Scale, MES

The Medical Engagement Scale (MES) was developed by the NHS Institute for Innovation and Improvement and the Academy of Medical Royal College in the United Kingdom as part of the Enhancing Engagement in Medical Leadership project (Spurgeon et al., 2008). The scale was developed over years of testing in numerous NHS trusts involving thousands of

physicians. It consists of either an 18-item instrument or a 30-item instrument. The 18-item instrument measures engagement on three meta-scales: feeling valued and empowered; having purpose and direction; working in an open culture. The 30-item instrument includes the same three "meta-scales," with two subscales each. The MES is a reliable and valid measure of physician engagement that is quick and relatively easy to administer and complete. It has been used recently in research assessing the effects of physician engagement on organizational performance (Spurgeon et al., 2011).

2.3.4 Influencing factors of job engagement of medical staff

2.3.4.1 Individual factors

(1) Sex. According to the traditional gender role socialization hypothesis, men may be more engaged in work than women. Traditional culture has different perceptions of men and women. Women's gender socialization role usually leads to lower work input than men's. In addition, the dual load of work and family of women's role will also affect their work input. For example, Jenkins and Maslach (1994) and Lefkowitz (1994) show that men show their achievements by working, while women rely on their families, so men's job engagement is higher than that of women. However, the research on medical staff's work engagement shows that female medical staff's work engagement level is higher, which may be due to women's relatively better empathy ability, more patience and better communication skills, low labor intensity of surface emotions in physician-patient interaction, relatively less consumption of psychological resources, and higher level of dedication, concentration and vitality at work (Wan et al., 2021).

(2) Education background. As intellectuals and highly educated talents, physicians may pay more attention to high-level needs after meeting low-level needs such as physiology and safety, researchers have verified that physicians with high academic qualifications have higher job engagement, which may be related to their sense of self-efficacy (R. Wang & Xu, 2021; Wang & Zhang, 2020; L. Zhang et al., 2021). High academic qualifications are the embodiment of a person's high control ability and belief in academic level, and also the embodiment of learning ability. The higher the educational level, the stronger the learning ability, and the higher the sense of self-efficacy and over-competence. Employees with high over-competence usually have higher job autonomy and show higher initiative behavior (Zhao et al., 2016). Therefore, physicians with high academic qualifications may be more willing to put energy into their work, and then turn abstract self-efficacy into practical labor results.

(3) Position title. Some studies (Wu et al., 2017; L. Zhang et al., 2021) show that physicians without professional titles are more motivated and motivated than those with senior professional titles, which may be due to the higher professional expectations and enthusiasm of physicians without professional titles in the early stage, the corresponding increase in workload with the increase of roles after the title rises, and the lack of long-term development planning and incentive mechanism of physicians with high professional titles, which leads to the decline of work vitality.

(4) Marriage status. We can see the influence of marriage on work engagement from three aspects: first, it makes individuals feel the importance of family; The second is to improve the importance of personal work income to the family, so that work becomes more important; Third, married people can share problems and solve difficulties with their spouses, thus generating healthy psychological capital and promoting work engagement (Lin et al., 2014). This conclusion is consistent with the research results of Zhang et al.(2021), reported that the work engagement of unmarried people was obviously lower than that of married people.

(5) Individual psychological resources. Ma (2016) shows that emotional intelligence and positive emotions are positively correlated with work engagement. Emotion not only has a direct influence on work engagement, but also has an indirect influence on work engagement through the experience of positive emotions. Individuals with higher emotional intelligence experience more positive emotions, which may promote the improvement of work engagement. At the same time, foreign studies have also found that nurses with higher emotional intelligence are more inclined to take effective stress coping measures to relieve the stress when facing the stress at work, thus promoting further involvement in work (Schutte & Loi, 2014). In the research of Wang et al.(2015), personality resilience, as a group of traits that can help individuals manage stress, is positively correlated with the level of work engagement. Nurses with higher ability to withstand stress events have higher work engagement, which is consistent with the research results abroad (Garrosa et al., 2014).

2.3.4.2 Conditional factors

(1) Level of medical institution. In Wang Mengkang's research (2021), the higher the level of medical institutions, the higher the work engagement of medical staff. It may be that the higher the unit level, the better the social recognition, the stronger the organizational identity of employees and the higher the engagement.

(2) Staff. The correlation between the levels of work engagement of physicians without staffing is low. Zhang (2021) verified the relationship between staffing and work engagement.

The results showed that among the high-level work engagement and its three dimensions, the proportion of physicians without staffing was low, which were 5.68%, 4.55%, 8.81% and 13.07% respectively. The level of vitality and concentration of physicians without staffing was 0.666 times and 0.696 times that of physicians with staffing. This may be due to the dual-track system of employing people in public hospitals, which makes the non-staff personnel with the same position, the same job and the same professional title have low salaries and high salaries, and pay the same labor and wisdom, but get different remuneration, which dampens the work input and enthusiasm of the non-staff personnel.

(3) Work sense of accomplishment. Wang Mengkang's related research (2021) on the job engagement of medical staff in public hospitals shows that personal achievement has a negative impact on job engagement, which may be due to the fact that the personnel arrangement in public hospitals still presents the general characteristics of public institutions, and the personnel adopt career arrangement, which is lower in unemployment risk than that in private enterprises. Physicians may gradually meet the status quo with the accumulation of personal achievements, resulting in a decline in work enthusiasm.

(4) Sense of professional mission. The sense of professional mission is positively correlated with job engagement (Seay-Morrison et al., 2021; Wan et al., 2021). Part of the influence of professional sense of mission on job engagement is transmitted through the path of professional identity, which shows that under the guidance of this powerful inner force of professional sense of mission, individuals will love their jobs from the heart. On the one hand, it improves the possibility of individuals identifying with their jobs, on the other hand, it also reduces the influence of external negative factors, thus enhancing their professional identity and increasing their time, energy and other resources to work (Hirschi, 2011).

(5) Organizational justice. The research on the influence of organizational justice on the job engagement of grassroots medical staff under the new family physician contract service system shows that the organizational justice of grassroots medical staff can directly affect their job engagement, or indirectly play a role through the intermediary effect of psychological capital (Shi et al., 2021). Chen Jinxiang's research (2018) on job engagement of outpatient non-clinical service personnel mentioned that the process, distribution and interpersonal dimensions in organizational justice have a positive impact on job engagement. This is consistent with the research results of Duan (2016) and Liu (2014). In the oriental culture, the idea of "not suffering from scarcity but from inequality" is deeply rooted. Individuals attach great importance to whether they are recognized by the organization, and this recognition is largely reflected through fairness. According to the social exchange theory,

when the medical staff think that the feedback given by the organization is fair and reasonable, they will increase their work input.

(6) Organizational atmosphere. He (2011) conducted a questionnaire survey on organizational climate and job engagement among nurses. The results showed that organizational climate as an independent variable could independently predict job engagement. He et al. (2021) discussed the relationship between nurses' perceived organizational climate and job engagement in emergency department, and verified that the dimensions of team behavior and management support perceived organizational climate had positive effects on nurses' job engagement in emergency department. Luthans et al. (2008) confirmed that supportive organizational climate is positively correlated with psychological capital, and nurses' sense of organizational support will affect their level of psychological capital. When the hospital gives more support to nurses, nurses will be full of hope for their career prospects, and their sense of self-efficacy will be improved, which will help to cultivate nurses' optimistic and tenacious psychological characteristics, while nurses with high psychological capital can usually be more active in their work.

(7) Decision-making participation. Decision-making participation has a positive effect on work engagement. Involving clinicians in the formulation and revision of departmental rules and regulations can make physicians feel that they are part of the hospital and make them better engaged in work (J. Chen et al., 2014). This may also explain Zhang (2021), Ma (2018) and others mentioned in their research that physicians with administrative positions have a higher level of job engagement than physicians without administrative positions. It is possible that when employees have a clear identity and role participation, even if the working environment is unfavorable, the job engagement will increase accordingly.

(8) Organizational support structures and leadership cultures are important influencing factors of medical staff's job engagement (West et al., 2018). Schaufeli (2015) integrates leadership into JD-R model, which proves that engaging leadership indirectly affects job engagement and job burnout through job demands and job resources, and can improve employees' job engagement and reduce job burnout. Other related studies have also pointed out that transformational leaders help to create a good working environment (Piccolo & Colquitt, 2006) thus starting the incentive process that leads to work engagement.

In sum, the author includes influencing factors of job engagement of medical staff as follows: meaning in work, control and flexibility, work-life integration, social support and community at work, development orientation, participation in decision making; organizational cultural and values and physician factors (See Table 2.2).

Table 2.2 Factors that may influence the development of physician engagement

Main Categories of Factors	Examples of Contributing Issues
Meaning in work	Professional meaningfulness
	Professional fulfillment
	Professional commitment
Control and flexibility	A voice in how my time is structured and used
Work-life integration	Good work/life balance
Social support and	Good relationships with administrators
community at work	Good relationships with colleagues
	Good relationships with patients
Development Orientation	Opportunities for professional development and career advancement
	Opportunities to expand clinical skills and learn new skills
Participation in decision	Feeling that my opinions and ideals are valued
making	A voice in clinical operations and processes
	Participation in setting broader organizational goals and strategies
Organizational culture and	Supportive organizational climate
values	Respect for competency and skills
	Fair compensation
	Alignment with organization's mission and goals
Physician factors	Emotional intelligence
	Psychological capital
	Mindfulness
	Internal drive and ambition
	Age, Gender, Education, Family, Professional title

2.4 Theoretical background

In the past 40 years, many studies have shown that job features have a profound impact on employees' happiness. These studies mainly rely on three influential job stress models, namely, Job Demand-Control model (Karasek, 1979), Effort-Reward Imbalance Model (Siegrist, 1996) and Job-Demands and Resources model (Demerouti et al., 2001).

2.4.1 Job demand-control model (JD-C)

Job Demand-Control Model (JD-C model) is a job stress model put forward by Karasek in 1979, and it has become one of the mainstream models in the research field of job stress and burnout. JD-C model is based on a large number of researches on job remodeling and employee stress. This model explains and predicts job stress from the perspective of job characteristics (Karasek & Theorell, 1990; Karasek, 1979). The job features in JD-C model are composed of two key features: job demands and job control, and individual job stress comes from the joint action of job demand and job control. Job demand, that is, stressors, refer to the factors that exist in the work situation and reflect the number and difficulty of the work tasks that employees are engaged in, such as workload, role conflicts and problem-

solving demand. Job control, also known as the range of job decisions, is a reflection of the extent to which employees can influence their work behaviors. Job stress is not determined by job demand or job control factors alone, but by the interaction between them. Under different levels of job control, the influence of job demand on job stress is different, that is to say, the two elements of job characteristics work together on the job stress felt by individuals.

The job demand-control model contains the following two basic assumptions: Hypothesis 1, the job demand is at a high level, and the low level of job control will lead to a high degree of job stress. Karasek calls the job with this characteristic "high strain jobs"; Second, it is assumed that when both job demand and job control are at a high level, the individual's job motivation can be enhanced, which is conducive to improving the individual's job satisfaction and promoting the individual's personal growth. When an individual enjoys a full sense of job control, the excessive job demand will not only become a stressor, but will encourage the individual to mobilize all the knowledge and technology reserves to effectively solve the difficulties in work, and become a kind of "beneficial pressure". Karasek calls the job with this characteristic "active-learning jobs". Because of the protection of job control, individuals in high-level job demand can avoid being hurt by high job stress. Therefore, it can be said that job control plays a buffering role, and it can also be understood as a protection mechanism.

2.4.2 Effort-reward imbalance model (ERI)

The effort reward-imbalance model (ERI) discusses the mechanism of work stress from the perspective of social exchange theory. This theory (Siegrist, 1996) holds that people's time and energy in work need to be compensated by salary, respect and development prospect. Once the organization fails to give these corresponding rewards to employees, employees will change their working status, such as being late, leaving early, absenteeism, dissatisfaction with work, etc (Griep et al., 2009). The imbalance between giving and giving back (high giving and low giving back) often leads to the overexcited autonomic nervous system of employees, which leads to the increase of blood pressure and heart rate, and eventually leads to cardiovascular diseases such as myocardial infarction and coronary heart disease (Chung & Wu, 2013; Siegrist, 2004; Wright et al., 2011). Especially those who have the tendency of over-investment, they are more likely to have greater work pressure. At the initial stage of the ERI model, the model only involved the two constitutive elements of "giving" and "giving back", among which "giving" can be divided into two variables: external giving and internal giving. "External effort" refers to employees' working hours, work responsibilities, work tasks, etc. "Internal effort" refers to employees' emotional commitment to work, etc. Later,

Siegrist (2004) added over-input to the original two-component model, which expanded the model from two-component model to three-component model of giving, over-input and feedback. The effort construct in this three-element model is equal to the external effort in the original model, while the over-investment is equal to the internal effort in the original model. As an exchange product of people's effort at work, feedback can be divided into three dimensions: salary, respect and control of social status. Salary refers to people's various economic benefits at work; Respect the attitude of superiors, subordinates, colleagues, etc. towards people at work, and reflect people's dignity; The control of social status includes factors such as job stability, job promotion prospect, variability and safety.

ERI model has three theoretical assumptions: external hypothesis, internal hypothesis and interactive hypothesis. The external hypothesis and internal hypothesis emphasize that the factors of giving feedback and over-investment have a direct effect on job stress. If there is an imbalance between employees' contribution and feedback, it often causes individuals to bear greater work pressure. In addition, if employees are over-invested in their work, it is easy to generate greater work pressure. Interaction hypothesis points out that there is interaction effect between over-investment and imbalance of giving and feedback. That is to say, over-investment can strengthen the negative impact of the imbalance of effort and reward on work stress, and over-investment has a moderating effect on the relationship between giving and feedback and work stress.

2.4.3 Strengths and weaknesses of JD-C model and ERI model

The basic assumptions of JD-C model and ERI model are that when some job resources are insufficient (such as autonomy in JD-C model, and salary, respect and control of social status in ERI model), job demands will especially lead to stress. This raises the question whether the JD-C model and ERI model are applicable to the universe of job positions, and whether in certain occupations other combinations of demands and (lack of) resources than the ones incorporated in the models may be responsible for employee well-being (Bakker & Demerouti, 2007). Therefore, it is yet unclear why autonomy is the most important resource for employees in JD-C model. Similarly, ERI model assumes that salary, respect and control of social status are the most important job resources, which can compensate the impact of job demands on stress. Why is there no autonomy in this model? Are salary and respect for the control of social status necessarily more important than job identification, person-job fit and interpersonal relationship? Therefore, JD-C model and ERI model leave no room for the integration of other work-related factors. Although these factors have been proved to be

related to well-being, most studies on JD-C model and ERI model are limited to a set of given and limited independent variables.

Secondly, JD-C model and ERI model only focus on the process of health damage, but do not include the process of motivation, that is, the positive influence of job resources on job engagement. By combing and summarizing the negative aspects of job burnout and positive aspects of job engagement in occupational mental health, we can find that although job burnout and job engagement are two concepts with opposite meanings, the absence of job burnout symptoms does not mean that employees are engaged in work. Similarly, when the level of job engagement is low, it does not mean that employees are tired. Therefore, only by integrating job burnout and job engagement can we better understand and recognize the occupational mental health status of the research object from both positive and negative aspects.

To sum up, given the objectives of this study, we considered that the most appropriate theoretical framework was the Job Demands-Resources model (JD-R). This is currently the most popular framework in occupational health psychology to investigate the relationships between job characteristics and employee well-being (Lesener et al., 2018).

2.4.4 Job Demands-Resources model (JD-R)

At the heart of the Job Demands-Resources (JD-R) model lies the assumption that whereas every occupation may have its own specific risk factors associated with job stress, these factors can be classified in two general categories (i.e. job demands and job resources), thus constituting an overarching model that may be applied to various occupational settings, irrespective of the particular demands and resources involved (Bakker et al., 2003; Demerouti et al., 2001).

Job demands-resources model's health damage process and motivation stimulation process take job burnout and job engagement as result variables respectively, and skillfully integrate them for research. It can be said that JD-R model provides a theoretical basis for the integrated research of job burnout and job engagement.

2.4.4.1 Brief overview of the Job Demands-Resources model

The core assumption of JD-R model is that each occupation has its own specific factors related to job stress, which can be divided into two categories (namely job demands and job resources), thus forming a whole model. JD-R model is not limited to specific job demands or job resources. It assumes that any demands and any resources may affect the health and well-

being of employees. Therefore, JD-R model has a much wider scope than other models, because it may include all job demands and job resources. JD-R model is also more flexible and can be applied to various occupations. Job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs. For example, workload, unfavorable working conditions and emotional interaction with clients. Although job demands are not necessarily negative, they may turn into job stressors when meeting those demands requires high effort from which the employee has not adequately recovered (Meijman,1998). Job resources refer to the work factors that can provide support and help for workers, which can help to achieve work objectives, reduce job demands and related physiological and psychological costs, and stimulate personal growth, learning and development (Demerouti et al., 2001). But working resources are not only used to deal with job demands, but also very important. This is consistent with the conservation of resources theory (COR theory) (Hobfoll & Shirom, 2001), which points out that, people have a primary motivation to build, protect, foster, and maintain object, personal, condition, and energy resources. Stress occurs when resources are threatened or lost, or when there is a failure to gain resources following resource investment. Accordingly, resources are valued in their own right or because they are means to the achievement or protection of other valued resources. Job resources may be located at the level of the organization at large (e.g. pay, career opportunities, job security), the interpersonal and social relations (e.g. supervisor and co-worker support, team climate), the organization of work (e.g. role clarity, participation in decision making), and at the level of the task (e.g. skill variety, task identity, task significance, autonomy, performance feedback).

The second important assumption of JD-R model is that two different underlying psychological processes play a role in the development of job strain and motivation (as shown in Figure 2.1). The first is the process of health damage. It is assumed that job demands are the main predictive variable of the process of health damage. Excessive job demands or long duration will lead to exhaustion of mental and physical resources, leading to exhaustion and health damage, and job burnout. The second process is motivational, which assumes that job resources have motivational potential and leads to high job engagement, low cynicism and high performance (Bakker & Demerouti, 2007).
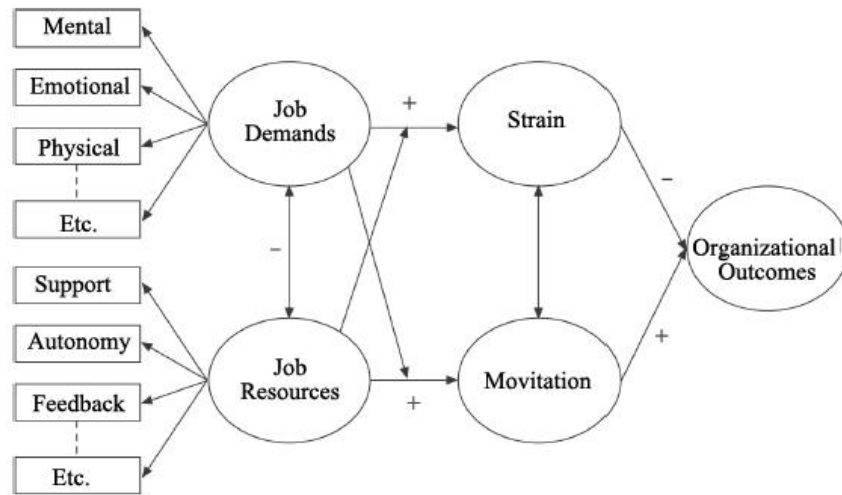
Figure 2.1 The Job Demands-Resources model

Source: Bakker and Demerouti (2007)

In addition to the main effect of job demands and job resources, JD-R model also points out that the interaction between job demands and job resources is also very important for the development of job pressure and motivation. More specifically, on the one hand, job resources can buffer the influence of job demands on job burnout (Bakker et al., 2003); Especially when job demands and job resources are based on similar dimensions in quality (namely, cognition, emotion and body), the interaction effect between them is most obvious (Heidinger et al., 2011).

The last proposition of JD-R model is that under the condition of high job demands, the motivation of job resources is more significant (Bakker & Demerouti, 2007). According to the Conservation of Resources Theory (Hobfoll & Shirom, 2001), people seek to acquire, retain and protect what they value, such as material, social, personal or energy resources. In order to prevent the loss of resources, individuals must introduce resources. Hobfoll (2001) has additionally argued that resource gain, in turn and in itself has only a modest effect, but instead acquires its saliency in the context of resource loss. This implies that job resources gain their motivational potential particularly when employees are confronted with high job demands.

2.4.4.2 Sub-category of job demands and job resources

In the initial JD-R model, job characteristics include job demands and job resources. Previous studies usually take several types of job demands or job resources as measurement indicators, and then investigate the role of job demands or job resources by extracting latent variables. However, this treatment inevitably hides the difference between different types of job characteristics. Therefore, based on the initial model, researchers have further refined the

work characteristic factors based on scientific theoretical thinking and empirical research.

2.4.4.2.1 Sub-category of job demands

According to the initial assumption of JD-R model, job demands are the main predictors of the process of health damage, and the direct result is job burnout. However, with the deepening of research, researchers found that not all job demands can lead to job burnout, and some job demands can also promote job engagement. For example, in the research of Bakker (2005), cognitive needs (that is, the amount of sustained mental effort required for a job) are positively correlated with energy and dedication. According to Podsakoff (2007), the stressors are divided into two types: hindrance stressors and challenge stressors. On the basis of JD-R theory and stressor research, Broeck et al. (2010) try to classify job demands, and integrate the differences between job obstacles and job challenges in JD-R model. The confirmatory factor analysis results support the differences between job demands and job resources in two samples (N1 = 261 and N2 = 441). In addition, the structural equation model also confirmed that job obstruction positively predicted job burnout and negatively predicted job engagement. Job resources positively predict job engagement and negatively predict job burnout; Challenge does not predict job burnout, but positively predicts job engagement. In this way, job characteristics can be divided into three categories: job obstacles, job challenges and job resources. It can be said that the subdivision of job demands is helpful to clarify the different effects of different types of job demands on job burnout and job engagement, and make its mechanism in JD-R model clearer.

2.4.4.2.2 Sub-category of job resources

In JD-R model, job resources are the main factor to stimulate people's work motivation, and the subdivision of job demands makes it clear that different types of job demand have different effects on occupational mental health. Then, the subdivision of working resources is also an attempt of model development. For example, according to Herzberg's two-factor incentive theory (Herzberg et al., 1993), job resources can be subdivided into health care resources and incentive resources. Health care resources mostly refer to external factors such as working environment, salary and material conditions. If such resources are insufficient and employees are not basically satisfied, job burnout may occur. However, even if handled properly, it can only eliminate employees' negative emotions and cannot promote their work engagement. On the contrary, incentive resources mostly refer to factors related to the work itself, such as decision-making participation, development opportunities. If such resources are sufficient, they may greatly stimulate workers' work motivation, promote work engagement and reduce job burnout. However, even if the incentive resources are insufficient, it will not

necessarily lead to job burnout. Therefore, it can be expected that health care resources can alleviate the occurrence of job burnout, but have no positive predictive effect on job engagement. Motivation can positively predict job engagement and alleviate job burnout. For this theoretical hypothesis, the author can propose to test it empirically in future research.

It is worth noting that regarding the breakdown of job demands and job resources, individual differences and occupational differences may also need to be considered. For example, for people with low traditional ideas, the control of work is a job challenge, which has a positive correlation with health, while for people with high traditional ideas, the control of work is a hindrance, which will cause job burnout (Xie et al., 2008). Similarly, cognitive load is a challenge for practitioners in the academic field, but an obstacle for a designer (Demerouti & Bakker, 2011), which may be topics that need to be deeply discussed in the follow-up research.

In addition to job resources, the introduction of individual resources is an important supplement and extension of JD-R model. Xanthopoulou (2007) studied the role of three kinds of personal resources (self-efficiency, organization-based self-estem, and optimization) in predicting fatigue and work engagement. The results of structural model analysis show that personal resources do not try to offset the relationship between job demands and exhaustion, and personal resources play a part of intermediary role between job resources and job input, which shows that job resources promote the development of personal resources. In addition, the longitudinal research of Xanthopoulou et al. (2009) shows that with the passage of time, personal resources, job resources and work input are mutual. Therefore, job resources predict personal resources and work input, which in turn can predict job resources.

Chinese scholars have also investigated the role of individual resources in JD-R model. Huang et al. (2010) found that individual resources play an intermediary role in the process of the influence of job resources on emotional exhaustion and low sense of achievement through meta-analysis and structural equation model. Subsequently, other forms of individual resources have also attracted attention, such as: resilience plays a moderating role in the influence of challenging stressors and obstructive stressors on emotional exhaustion (Liu, 2015); Self-efficacy partially mediates between work environment and work engagement (Yang & Hu, 2021), but it is not difficult to find that these individual resources are mostly concentrated on the psychological level in terms of their attributes.

According to Hobboll's division of resources (Hobfoll, 2002), individual resources should include psychological, physical, emotional, intellectual and capital types. Specifically, psychological resources include optimism, self-efficacy, concentration and resilience;

Physical resources include health, vitality, energy and sleep; Emotional resources include emotional satisfaction, empathy and gratitude; Intellectual resources include skills, knowledge and experience; Capital resources include time and money. In recent years, some scholars have pointed out that individual resources should also include knowledge, skills and abilities related to work (Ten Brummelhuis & Bakker, 2012), intrinsic work value orientation (Lu et al., 2015) and Traditional Values (Xie et al., 2008), different types of individual resources are getting more and more attention, suggesting that we can continue to try to incorporate other types of individual resources in the future to enrich and supplement individual resource variables.

2.4.4.3 Research on JD-R Model in medical industry

JD-R model can be applied to all walks of life because of its flexibility. In recent years, more and more scholars at home and abroad have also applied it to the medical and health field. Tomo and De Simone (2019), taking JD-R model as the theoretical framework and taking three pediatric hospitals in Italy as samples, constructed a model to evaluate the overall health level of medical and health care institutions. And pointed out that the JD-R model may well explain differences in the work environment, and that personality enables coping with negative effects of work environment settings. Kaiser (2020) used the JD-R model evaluate the work results of 489 public health service professionals in Norway, and the effects of job demands (workload, work conflict, work-family conflict) and job resources (autonomy, social support, cooperation, leadership, team atmosphere) on turnover intention, job satisfaction and service quality were discussed. The results showed that job demands were positively correlated with job burnout. Job resources are positively correlated with engagement and negatively correlated with burnout; Job burnout is positively correlated with turnover intention, and negatively correlated with job satisfaction and service quality. It is suggested that job demands and job resources are important predictors of employee well-being and organizational results. Grover (2016) introduced mindfulness as a personal resource into JD-R model, investigated 415 Australian nurses, and confirmed that mindfulness was directly negatively correlated with job stress and emotional demands perception, and buffered the relationship between emotional demands and psychological stress. Barello (2021) discussed the role of perceived covid-19-related organizational demands and threats in predicting emotional exhaustion, and the role of organizational support in reducing the negative influence of perceived COVID-19 work-related stressors on burnout. It is verified that personal resources (healthcare professionals' orientation towards patient engagement) play a

regulatory role in JD-R model, which can reduce the demands effect and increase the resource effect. Zis (2014) verified the influence of job demands (emotional needs, intellectual needs, workload, and work-family conflict) and job resources (autonomy, career development opportunities, colleague support, and supervisor support) on job burnout of residents. Britt (2021) and others verified the influence of COVID - 19 related needs (such as lack of personal protective equipment, concern about infected family members) and resources (meaningful work, social support) on emergency medical staff Mental Health Strain. Inoue (2013) verified the influence of job demands (Psychological demand, extreme effort) and job resources (decision latitude, supervisor support, colleague support and external reward) on job engagement through prospective research.

Domestic scholars have also studied the working status of medical staff based on JD-R model. Luo (2020) investigated the nurses' working environment, work engagement and job burnout in six tertiary and first-class general hospitals in Jiangxi Province based on JD-R model, and verified that nurses' working environment has a direct positive predictive effect on job engagement, nurses' working environment and work engagement have a direct negative predictive effect on job burnout, and nurses' work engagement has a partial mediating effect on job burnout. Lu (2018), according to the cognitive evaluation theory and JD-R model, discussed the relationship between pediatrician's job call and job resources and job engagement, and confirmed that job call and job development and salary in job resources can effectively promote pediatrician's job engagement, while only emotional demands have a negative moderating effect on the relationship between job call and job engagement. That is, the higher the emotional requirements, the weaker the positive effect of job call on job engagement, and the stronger on the contrary. Yan et al. (2019) discussed the influence of job demands (role conflict, role ambiguity, work intensity, physical load) and job resources (salary satisfaction, job security, organizational ownership atmosphere, talent gradient building atmosphere, patient respect) on the turnover intention of physicians. Wang et al. (2017) compiled a set of JD-R measurement scale for clinicians, including 14 items, including seven job demands and seven job resources. Job demands mainly include workload, emotional needs, physical needs, psychological needs, patient expectations, technical demands, etc., while job resources mainly include rich remuneration, sense of control over work, learning opportunities, result feedback, etc. After investigating 3017 medical staff, it is verified that the scale has good reliability and validity. Based on JD-R model, the influence mechanism of job demands and job resources on the work-family conflict of clinicians is discussed. The results show that higher job demands will more easily lead to the work-family

conflict of physicians, while higher level of job resources will effectively buffer their work-family conflict.

The summary of the research on JD-R model in medical industry is shown in Table 2.3.

Table 2.3 Summary of the research on JD-R model in medical industry

Job demands	Job resources	Personal resources	Outcomes	Sample	Research method	Study
Job insecurity; Team climate (conflict); Work pressure; Workload; Task complexity; Negative physical and psychic symptoms (health indicators).	Career opportunity; Sense of belonging to the organization; Supervisor support; Co-worker support; Team climate (cooperation); Autonomy; Performance feedback; Enthusiasm; Optimism; Self-efficacy.		Employee well-being.	492 patient care staff (doctors, nurses and healthcare technicians) working in three government-funded hospitals in Italy.	Cross-sectional study, Qualitative questionnaire.	(Tomo & De Simone, 2019)
Workload; Work conflict; Work-family conflict.	Autonomy; Social support; Collaboration; Leadership; Team climate.		Turnover intention; Job satisfaction; Service quality.	489 health care professionals working in public health services for children and their families in Norway.	Cross-sectional study, Quantitative research, Multilevel structural equation model (SEM) analysis	(Kaiser et al., 2020)
Emotional demands.	Job control; Perceived autonomy support.	Mindfulness.	Psychological stress.	415 Australian nurses.	Cross-sectional study, Quantitative research, Structural equation model (SEM) analysis.	(Grover et al., 2017)
Perceived COVID-19 -related organizational demands	Organizational support.	Orientation towards patient engagement.	Emotional exhaustion.	532 healthcare professionals working during the COVID-19 pandemic in Italy.	Cross-sectional study, Quantitative research, Logistic regression	(Barello et al., 2021)

Job demands	Job resources	Personal resources	Outcomes	Sample	Research method	Study
					(LR) model.	
Emotional demands; Intellectual demands; Workload; Home-work demands' interface	Autonomy; Opportunities for professional development; Support from colleagues; Supervisor's support.		Burnout.	373 medical residents in the largest Greek hospital.	Cross-sectional study, Quantitative research, Logistic regression (LR) model.	(Zis et al., 2014)
COVID-19 Work and Personal Demands.	COVID-19 Resources.		Mental Health Strain.	229 emergency medicine attending physicians, advanced practice providers (APPs), and residents working across seven emergency departments and urgent care locations.	Longitudinal study, Quantitative research, Multilevel models.	(Britt et al., 2021)
	Practice Environment.		Job burnout; Job engagement.	408 nurses in 6 tertiary hospitals in Jiangxi Province, China.	Cross-sectional study, Quantitative research, Structural equation model (SEM) analysis.	(Luo, 2020)
Workload; Job skill; Emotional demands.	Professional development; Autonomy; Salary.	Career calling.	Job engagement.	245 pediatricians in several general hospitals and pediatric hospitals in Shanghai, China.	Cross-sectional study, Quantitative research, Multiple regression analysis.	(Lu, 2018)

Job demands	Job resources	Personal resources	Outcomes	Sample	Research method	Study
Role ambiguity; Role conflict; Physical load.	Organizational ownership atmosphere; Salary satisfaction; Patient respect; Talent gradient construction.		Turnover intention.	839 doctors from seven t tertiary public hospitals in Heilongjiang province, China.	Cross-sectional study, Quantitative research, Multiple regression analysis.	(Yan et al., 2019)
Workload; Emotional needs; Physical needs; Psychological needs; Patient expectations; Temporal demand; Technical demands.	Rich remuneration; Job control; Autonomy; Learning opportunities; Work meaning; Result feedback, Participation in decision making.		Work-home conflict.	3017 physicians of China.	Cross-sectional study, Quantitative research, Multiple regression analysis.	(S. Wang & F. Xie et al., 2017b)

2.5 Research gaps

Through the previous chapters' review of related research on job burnout, job engagement and job demand-resource theory at home and abroad, we can find that:

From the research content of job burnout and job engagement, researchers at home and abroad are actively trying to develop measurement tools of job burnout and job engagement while theoretically constructing job burnout and job engagement, and have conducted interpretive approach and attribution research on job burnout and job engagement from different theoretical perspectives. The research results mainly focus on the fields of organizational behavior and psychology (Auh et al., 2015; Hakanen & Roodt, 2010; Salmela-Aro & Upadyaya, 2018; Schaufeli, 2015). However, in the medical and health industry, foreign scholars' research on job burnout and job engagement of medical staff is more inclined to improve strategy research and retrospective experience summary, while domestic related research started late, focusing mainly on descriptive status analysis and discussion of influencing factors, without forming a relatively complete attribution model. In particular, there is no complete attribution model for tertiary public hospitals.

According to the research results of JD-R model, JD-R model can be applied to different industries because of its flexibility. In recent years, more and more scholars at home and abroad have also applied it to the medical and healthcare field. Kaiser (2020) used JD-R model to verify the influence of job resources and job demands on turnover intention, job satisfaction and service quality among Norwegian health care workers. Zis (2014) verified the influence of job demands and job resources on job burnout of medical residents. Britt (2021) verified the influence of COVID - 19 related needs and resources on Mental Health Strain of emergency medical staff. Inoue (2013) verified the influence of job demands and job resources on job engagement through prospective research. Wang et al. (2017) discussed the influence of job demands and job resources on clinician's work-family conflict based on JD-R model. From the above research, it can be seen that there are few researches on taking job burnout and job engagement as outcome variables among medical staff into JD-R model.

According to the types of demands, the current research mainly has two shortcomings: first, job demands are limited to the internal organization (Corrigan et al., 2020; Dyrbye et al., 2013; Shanafelt & Hasan et al., 2015). According to the theory of personal environment matching, burnout comes from the mismatch between individuals and environment, and the greater the gap between people and environment, the greater the possibility of burnout. This

mismatch mainly occurs in the following six areas: workload, control, reward, community, fairness and values (Maslach et al., 2001). However, this view only pays attention to the interaction within the organizational environment, without in-depth study on the influence of wider society and culture on job burnout. As components of society, people are bound to be influenced by a wide range of social situations, but the influence of factors outside the organization on job burnout of medical staff is rarely mentioned and studied. Second, the industry characteristics and innovation of job demands are not strong. At present, most of the job demands selected in the research mainly focuses on the traditional job demands such as workload, emotional demand, physical load, family work conflict, etc., and the unique job demands of the current medical industry are not deeply explored, so the innovation is not strong.

From the types of resources, the related research based on JD-R theory started from paying attention to the occupational resource, and continued to deepen and expand to the field outside work. The introduction of personal resource (Xanthopoulou et al., 2007) is an important supplement and extension of JD-R model. At present, the individual resources included in the research mainly include psychological, physical, emotional, intellectual and capital resources. In 1984, Lazarus and Folkman (1984) mentioned the relationship between culture and stress coping when they studied stress and coping. They believed that individual beliefs and values would affect their assessment of stress and their choice of coping. Under different cultures, individuals' perceptions and responses to stressors are different (Barkema et al., 2015). A large number of researches focus on the buffer mechanism of personal resources (Grover et al., 2016; Karatepe et al., 2018), while the values and attitudes related to work are seldom studied as personal resources, and the possibility of their being used as moderators is largely ignored.

2.6 Research hypotheses and conceptual model

2.6.1 The influence of job demands on job burnout and job engagement

The flexibility of JD-R model lies in that it can incorporate various types of job demands and resources according to the professional background researched, and meet the needs of professional particularity. According to the JD-R theory, job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated

with certain physiological and/or psychological costs. For example, workload, unfavorable working conditions and emotional interaction with clients. On the basis of incorporating traditional job demands such as work overload, mental demands, work-home conflict and job insecurity, this research adds job demands with the characteristics of medical and health industry (research pressure, perceived social public solidarity, workplace violence) to make job characteristics more situational, and verified the relationship between job demands and job burnout.

Although job demands are not necessarily negative, they may turn into job stressors when meeting those demands requires high effort from which the employee has not adequately recovered (Meijman & Mulder, 1998). Job demands are the main predictive variable of the process of health damage. Excessive job demands or long duration will lead to exhaustion of mental and physical resources, leading to exhaustion and health damage, and job burnout (Bakker & Demerouti, 2007). Studies show that job demands also are critical factors that are associated with employee work engagement (Lee et al., 2019). Based on the above argument, the author proposes the following hypotheses:

H1: Job demands (work overload, work-home conflict, research stress, perceived public disunity, workplace violence) are positively correlated with job burnout.

H2: Job demands (work overload, work-home conflict, research stress, perceived public disunity, workplace violence) are negatively correlated with job engagement.

In the context of COVID-19, many medical staff have been deployed to carry out epidemic prevention and control tasks. With fewer qualified staff to care for patients, medical staff's workload has dramatically increased. The stress sources of medical staff include: work overload，extra-long work hours, 、inadequate PPE, inadequate preparation to meet emotional needs of patients and family, exposure to death and dying (Arshid et al., 2021; Barello et al., 2021; Dzau et al., 2020). Previous studies on medical staff also show that workload has become one of the most persistent stressors and a significant predictor of negative mental health outcomes of medical staff (Brunsberg et al., 2019; Glasheen, 2011; Horn & Johnston, 2020; Kumar, 2016). Work overload lead to poor job satisfaction which ultimately affects employee performance and employee engagement (Ali & Farooqi, 2014). Based on the above argument, the author proposes the following hypotheses:

H1a: Work overload is positively correlated with job burnout.

H2a: Work overload is negatively correlated with job engagement.

In contemporary China, work-family conflict is an important psychosocial factor at work (Jian & Angerer, 2014). The importance of work–life balance for job satisfaction and well-

being among health-care employees is well-recognized. Work life conflict, where work interferes with personal life, has been associated with a number of negative employee health and well-being outcomes, particularly low psychological well-being, low job satisfaction, burnout and depression. As shift work, particularly night and weekend work, is fundamental to health care, work–home conflict is a significant concern among health-care workers (Grzywacz et al., 2006). Studies by Daderman and Basinska (2016) on the relationship between work-family conflict (WFC) and family-work conflict (FWC) and job engagement and turnover intention show that, the score on the scale to measure WFC was positively related to perceived workload and to both turnover intentions, while negatively related to engagement. Based on the above argument, the author proposes the following hypotheses:

H1b: Work-home conflict is positively correlated with job burnout.

H2b: Work-home conflict is negatively correlated with job engagement.

In addition to verifying the relationship between the traditional job demands above with job burnout and job engagement, verify the influence of the following emerging job demands on job burnout and job engagement:

Research stress. Scientific research activities are the necessary measures for hospitals to ensure and improve medical quality, and also the inevitable requirement for improving the comprehensive competitiveness of hospitals. Clinicians are the direct participants in clinical scientific research. For the sake of personal career development of clinicians, most physicians' professional titles are inevitably required by scientific research papers, and their professional titles are directly related to their own income, workplace status and other factors, and the evaluation of professional titles often requires a large number of scientific research topics, academic papers and professional and technical tests. "Busy with clinical work during the day and busy with papers at night" has become a vivid portrayal of Chinese physicians. According to the survey by Jiang (2017), more than half of clinicians think that they are facing great research pressure. This has also become one of the main stressors of medical staff, especially those with low seniority (Feng et al., 2020; Jiang et al., 2020; Shan et al., 2021). Based on the above argument, the author proposes the following hypotheses:

H1c: Research stress can be included in JD-R model as a job demands of medical staff, and it is positively related to job burnout.

H2c: Research stress is negatively correlated with job engagement.

Perception of public disunity. After the outbreak of COVID-19 epidemic, high workload, high risk of infection, scarce protection resources, psychological stress and interpersonal isolation all aggravated the job burnout of medical staff (Barello et al., 2021; Leslie Kane,

2021; Nguyen et al., 2021; Zhu et al., 2020). Sumner and Kinsella (2021) recently conducted in-depth interviews with 38 frontline workers in Britain and Ireland, who came from different departments and industries, including health and social care, community supply chains, and civil defense. These front-line workers rely on the public to adhere to public health guidance and prevent the spread of virus, thus reducing their potential workload. Under the situation that the epidemic may break out again at any time, the joint efforts and cooperation of the public for the collective goal (lowered mortality and mortality) play a key role in the sense of reward for the efforts of front-line workers. When frontline workers find that the public does not comply with the public health guidance and their words and deeds are inconsistent, they will have negative emotions and lead to burnout. Scholars call this kind of joint efforts made by others to the same collective goal, which are perceived in a wider social environment (outside the organizational environment), solidity evaluation, and point out that this may be an important factor that leads to burnout of frontline workers and other jobs with strong interdependence of tasks, but this discovery has not been verified by medical workers. Based on the above argument, the author proposes the following hypotheses:

H1d: Perceived public disunity can be included in JD-R model as a job demands of medical staff, and it is positively related to job burnout.

H2d: Perceived public disunity is negatively correlated with job engagement of medical staff.

In China, there is a specific form of workplace violence called 'Yi Nao', which translates as healthcare disturbance (Jiao et al., 2015). Healthcare disturbance is a form of workplace violence against healthcare workers perpetrated by patients, their relatives, and gangs hired by them (Tang & Thomson, 2019). The nature of work makes medical staff undertake high-intensity emotional labor, that is, the process of managing emotions, so as to meet the emotional demands of work (Morris & Feldman, 1996). Medical staff are required to adjust their emotions when interacting with patients, especially to show empathy when interacting with patients. Healthcare disturbance deteriorates the doctor-patient relationship has brought extra pressure to medical staff and further increased their emotional labor. Previous studies have shown that the prevalence rate of depression symptoms of doctors and nurses who have been exposed to physical violence in Chinese hospitals (71.25%) is higher than that of doctors and nurses who have not experienced workplace violence (57.2%) (Fang et al., 2019). And these violent incidents may aggravate the risk of adverse occupational health consequences of medical staff, including job burnout, work stress, emotional exhaustion, depressive symptoms and anxiety disorders (Sun et al., 2017). Based on the above argument, the author proposes

the following hypotheses:

H1e: Workplace violence can be included in JD-R model as a job demand, and it is positively related to job burnout.

H2e: Workplace violence is negatively correlated with job engagement of medical staff.

2.6.2 The influence of job resources on job engagement and job burnout

According to the analysis of related influencing factors of medical staff's work engagement, the following job resources are put forward: Perceived career opportunity, task interdependence, Person-Job fit, job autonomy, perceived organizational support, interpersonal relationship, and organizational justice. In the medical and health field, typical resources, such as job autonomy, perceived organizational support, and interpersonal relationship may be limited. As knowledge-intensive talents, medical staff, when faced with career development dilemma and complicated physician-patient relationship, other resources, such as perceived career opportunity, Person-Job fit, organizational justice may be crucial. For example, when medical staff participates in professional training (career opportunity), or perceive a strong fit between themselves and the job or organization, a sense of obligation to reciprocate will create (Saks, 2006). This enables medical staff to better respond to the demands and challenges of their work, and enables them to devote themselves fully to their work. Based on the above argument, the author proposes the following hypotheses:

H3: Job resources (perceived career opportunity, person-job fit, organizational status perception, interpersonal relationship, organizational justice) are positively related to job engagement.

H4: Job resources (perceived career opportunity, person-job fit, organizational status perception, interpersonal relationship, organizational justice) are negatively correlated with job burnout of medical staff.

Perceived career opportunities are defined as "employees' perceptions of the degree to which work assignments and job opportunities that match their career interests and goals are available within their current organization". These career interests are considered by individuals in terms of their own subjective criteria for career success (Kraimer et al., 2011). Showing medical staff that their organization offers options to help them achieve their career objectives may send them a signal that they are cared for, that their expertise is responded to and that their organization supports their personal choices. According to self-determination theory, if people's basic needs are met, they tend to have a higher level of performance, health and happiness. Specially, in a context where they face many demands, medical staffs who

know their organization can provide them with career opportunities in line with their personal goals and interests might have a higher sense of well-being (Huyghebaert et al., 2019). When PCO is high, medical staff may feel more real, because they think there is a certain consistency between the subjective standard of successful working life and what their organization provides. This may increase job satisfaction, reduce negative mentality such as burnout, and thus work more actively to realize one's career planning. Based on the above argument, the author proposes the following hypotheses:

H3a: Perceived career opportunity is positively related to job engagement.

H4a: Perceived career opportunity is negatively correlated with job burnout.

Researchers have contended that the extent to which a person and his or her environment are a good fit plays a significant role in the persons behavior toward the organization and the job (Kristof, 1996). In an extended model of PE fit, Yu (2009) argued that positive work-based effects, such as engagement, could enable a stronger PE fit, as well as serve as a positive outcome of strong PE fit. Lewin (1939) field theory argues that the behavior of individuals depends on their working environment. Therefore, the interaction between people and their working environment develops some behaviors among individuals. In particular, individuals who have a positive view of their working environment are more likely to show positive behaviors. Maslach and Leiter (2008) formulated a burnout model that focuses on the degree of perceived congruency between the individual and key aspects of his or her organizational environment. The model proposes that the greater the perceived incongruity, or mismatch, between the person and the job, the greater the likelihood of burnout; conversely, the greater the perceived congruity, the greater the likelihood of engagement with work.

Based on the above argument, the author proposes the following hypotheses:

H3b: Person-Job fit is positively related to job engagement.

H4b: Person-Job fit is negatively correlated with job burnout.

Employees' perception of organizational status refers to employees' subjective cognition of autonomy and organizational support in their organization. It is based on the feelings and judgments generated by organizations' attention and support to themselves. The higher the level of employees' perception of organizational status, the stronger their motivation and ability to influence the organization. According to the theory of organizational exchange, when employees perceive that the individual's position in the organization meets or exceeds expectations, they will have more sense of responsibility and obligation to the organization. The group engagement model (Tyler & Blader, 2003) pointed out that employees' position perception in the organization will affect employees' work attitude and behavior. Fuller et al.

(2006) proposed that if employees can be highly recognized in the enterprise, they will think of themselves as valuable employees in the organization, thus generating a positive sense of obligation to repay. Based on the above argument, the author proposes the following hypotheses:

H3c: Organizational status perception is positively related to job engagement.

H4c: Organizational status perception is negatively correlated with job burnout.

Self-determination theory (Deci & Ryan, 2012) proposes that when individuals experience a sense of fulfillment of the needs for relatedness, autonomy, and competence, they are more likely to experience autonomous motivation, well-being, and other positive outcomes. SDT theory holds that a positive relationship with significant others means that individuals are more likely to internally endorse the values and beliefs of others. When people who are important in their working environment value job content and job dedication (such as leaders, colleagues and patients), this means that the value of job engagement is more likely to be internalized. Collie et al. (2016) verified the relationship between students' personal relationships and academic engagement, and confirmed that students' perception of the relationship between teachers, parents and peers is related to academic engagement. That is to say, when individuals experience a sense of kinship, they may be more autonomous in their actions and goals and experience positive results (Jang et al., 2012). Based on the above argument, the author proposes the following hypotheses:

H3d: Interpersonal relationship is positively related to job engagement.

H4d: Interpersonal relationship is negatively correlated with job burnout.

Organizational justice refers to employees' perceptions of fairness, and how they are treated by managers and organizations, as well as the quality of social interactions at work (Greenberg, 1990). Adams' equity theory holds that perceptions of equity depend on the comparison of ratio of work input and outcome between employees, focusing on the procedural justice, distributive justice (Adams, 1963). As an organizational job resource, organizational justice is one of the most important organizational protective factors affecting employee's job engagement, and a key predictor of job engagement (Inoue et al., 2010). An empirical study about the Indian professionals' engagement reported that distributive justice and informational justice dimensions were found to have a stronger impact on employee engagement conceptualized as antipode of burnout (Gupta et al., 2013). Long and Cheng (2015) confirmed that organizational distributive justice has a positive effect on task performance of members. Masterson et al. (2000) found that interactive justice has a significant effect on employee work performance. When members were treated fairly by the

organization, they will reward the organization with better work performance. A low level of organizational justice is related to lower work engagement (Deepa, 2020; Gillet et al., 2013), higher job dissatisfaction (Muqadas et al., 2017), and burnout (Kadim et al., 2021). Based on the above argument, the author proposes the following hypotheses:

H3e: Organizational justice is positively related to job engagement.

H4e: Organizational justice is negatively correlated with job burnout.

2.6.3 The influence of job engagement on job burnout

According to Maslach and Leiter (1997), burnout and engagement was the opposite poles of a continuum that was entirely covered by the MBI. However, Russell and Carroll (1999) show that positive and negative emotions are independent states. So that researchers (Schaufeli & Bakker, 2004) conducted that burnout and engagement are not polar opposites, but independent and negatively correlated psychological states. Specifically, burnout and engagement to exhibit theoretically expected negative relationships with each other as well as opposing relationships with antecedent and consequent variables germane to the work environment. Some experts have also proposed that positive intervention on job engagement may have a measurable impact on job burnout (Schaufeli & Taris, 2013). An exploratory analysis of the medical students pointed that total engagement and subscale scores were negatively related to job burnout. Students in the bottom half of total engagement scores had a 3.9 times higher chance of being burned out while students in the bottom half of vigor scores had an odds ratio of 6.1 times as likely to be burned out (Agarwal et al., 2019). Based on the above argument, the author proposes the following hypotheses:

H5: Job engagement is negatively correlated with job burnout.

Since it has been inferred above that job demands are negatively correlated with job engagement (H2), job resources are positively related to job engagement (H3), and job engagement is negatively related to job burnout (H5), the author proposes the following hypotheses:

H6: Job demands can increase job burnout by reducing job engagement. In other words, job engagement plays a mediate role between job demands and job burnout.

H7: Job resources can reduce job burnout by increasing job engagement, In other words, job engagement plays a mediate role between job resources and job burnout.

2.6.4 The influence of personal resources on job engagement and job burnout

The related research based on JD-R theory started from paying attention to the occupational resource, and continued to deepen and expand to the field outside work. The introduction of personal resource is an important supplement and extension of JD-R model.   At present, the individual resources included in the research mainly include psychological, physical, emotional, intellectual and capital resources, while the values and attitudes related to culture are seldom studied as personal resources, and the possibility of their being used as moderators is largely ignored. Moreover, Lazarus and Folkman mentioned the relationship between culture and stress coping when they studied stress reactions and coping in 1984. They believed that individual's beliefs and values would affect their assessment of stress and their choice of coping approaches.

Individuals from different cultural background tend to have very different measures of personal adjustment and its embodiment, which are rich in discrepancies (Zhao, 2009). Western psychological research holds that pressure will cause agony and nerve, and agrees on the value of finding benefits in adversity by responding to eliminate the negative, alien power. However, such value is mainly used as a responding skill in specific scenarios, the appreciation towards adversity is excluded. To be more specific, in western culture, it is more agreed that the focal point appreciated is the coping measures centering in adversity rather than emotions (Lazarus, 1993). Meanwhile, Chinese culture plays an important role in Chinese people's response to stress (Shi, 2013). Chinese traditional culture is a complex of multiple cultures represented by Confucianism, Taoism and Buddhism, and its main body is Confucian culture (Huang & Charter, 1996).   As the mainstream culture of Chinese society, Confucian culture has the functions of representation, construction, guidance and arousal in the process of mental health services in China, which has direct and indirect effects on Chinese people's personality, stress coping style and behaviors (Luo et al., 2010).

Under the influence of Confucian culture, Chinese people's coping philosophy in the face of difficulties and adversities embodies the unique Confucian characteristics (Li & Hou, 2012). Firstly, Confucianism takes adversity and other stressful events as opportunities for growth, which is a psychological transformation of the meaning of the adversity itself. That is, it reevaluates or redefines setbacks, reinterprets the adversity encountered by individuals from a positive perspective, and eliminates the original negative meaning of it. Such philosophy makes the individual psychologically accept, rather than reject, the stressful event; Thus, the psychological conflicts and pressure caused by setbacks and other difficult events are resolved,

and the physical and mental reactions such as depression and depression are alleviated (Jing, 2006). From the perspective of cognitive evaluation, western philosophy supports finding meaning from adversity in order to eliminate the psychological pain caused by it and other negative life events. However, Chinese culture regards hardship and adversity as a driving force for personal growth. Finding meaning from adversity is not only to maintain mental health, but more importantly to use this "opportunity" to promote personal growth (Pan et al., 2010). Secondly, the core of Confucian culture is benevolence. Confucius put forward that the benevolent loves others, and that benevolence is the essential standard in dealing with interpersonal relationships, emphasizing that individuals should live in harmony with nature, others and society. This concept has a significant effect on alleviating interpersonal pressure (Liu & Wang, 2014). Then, Confucian culture holds that normal desire is the motive force of human struggle, while excessive desire will cause psychological problems. Confucianism emphasizes the golden mean thinking, that is, individuals should self-regulate and restrain their own behavior (He, 2009). It highlights that people should moderately constrain their desire and keep tranquil mentally, which can be of great help to mental health. Some previous research at home and abroad have found that Chinese traditional cultural values have a great impact on the perception of happiness and people's mental health. Lu, Gilmour and Kao (2001) once conducted research on sense of cultural values and happiness of college students from China Taiwan and UK. The results show that the relationships between traditional values and happiness were stronger in the Taiwanese sample than in the British sample. Whereas the value Confucian work dynamism had a culture-general effect on happiness. Liang (2010) did research, which shows that college students who accepted traditional values had fewer psychological symptoms and were relatively healthier mentally. The research of Badanta (2022) provides further evidence of the influence of Confucianism on health behaviors, health outcomes, and medical decisions. Zhang's research findings (2009) makes it clear that the overall subjective well-being of college students is above the medium level, and there is a positive relationship between Confucian values and subjective well-being, that is, the higher the score of Confucian values, the higher the happiness index. Tong et al. (2010) used SCI-90 to analyse the relationship between traditional sense of value and mental health, they found that those who have lower score on factors from SCI-90 tend to accept more of the traditional sense of value. Tong et al.(2010) interpreted this as the "root culture hypothesis", and those who accepted their own "root" cultural values had fewer psychological symptoms. The traditional values of the Chinese nation are rich in mental health nutrition.

Based on the above argument, the author proposes the following hypotheses:

H8a: Confucian coping, as personal resources, can adjust the influence of job demands on job burnout. When the degree of personal Confucian coping is high, the influence of job demands on job burnout is weakened.

Confucian culture not only emphasizes the role of cognition in coping with stress, but also emphasizes the role of positive action. Li et al.(2012) discussed the realistic meaning of Confucianism coping on improving mental health, the results show that Confucianism coping is capable of improving objective concentration, emotional constraint and positive cognitions. Confucianism ethics makes people feel cheerful and healthy (Guo & Liu, 2018). Confucian values attach importance to interpersonal harmony and family and encourage people to take their responsibilities to promote group happiness. At the same time, it emphasizes the importance of learning and thinking, introspection and self-training (Zhang et al., 2011). The spirit of professional dedication in the Chinese Confucian traditional classic, *The Analects of Confucius,* has a rich and vivid embodiment, *The Analects of Confucius* in the professional dedication thoughts include: focus on pragmatic professional attitude, loyalty to the professional ethics, passionate professional pursuit, diligent and conscientious professional dedication demands (H. Wu, 2020). Song (2015) pointed out that Confucian culture can relieve stress from both internal cultivation and external action, develop its own ability and willpower when the fate is bad, and actively realize its ideal and pursuit when the external conditions are ripe.Based on the above argument, the author proposes the following hypotheses:

H8b: Confucian coping, as personal resources, can adjust the influence of job resources on job engagement. When the degree of personal Confucian coping is high, the influence of job resources on job engagement is strengthened.

Based on the above research hypotheses, the conceptual model of this study is shown in Figure 2.2:
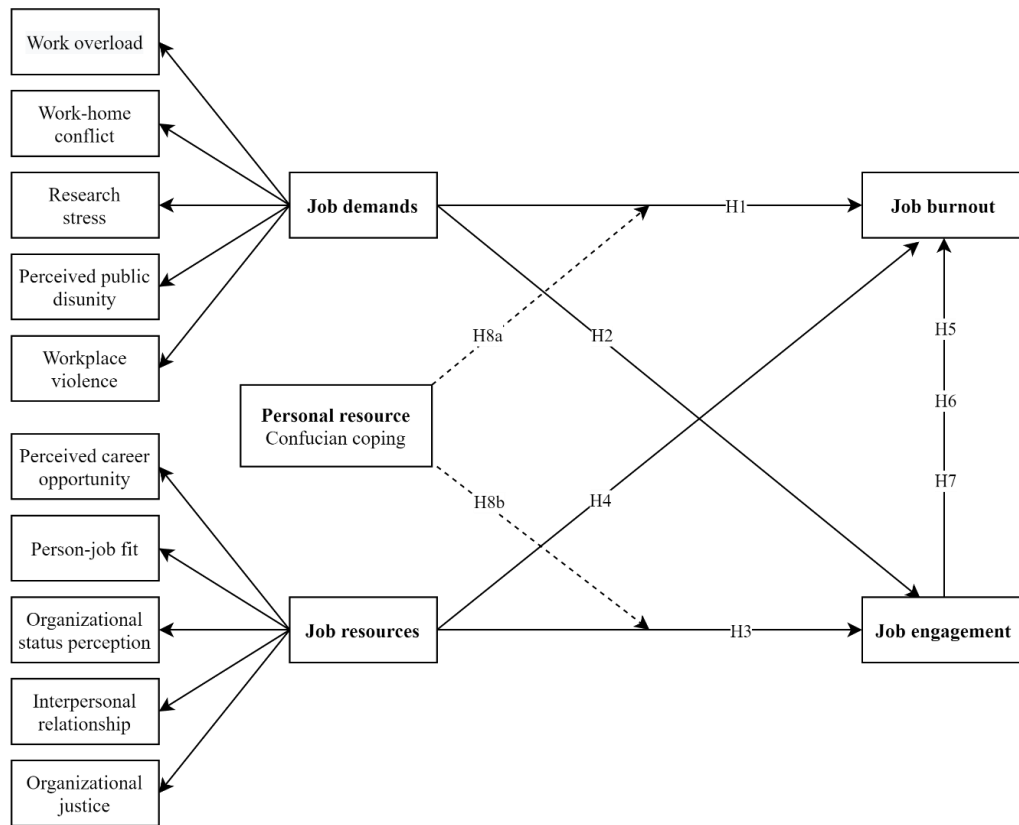
Figure 2.2 Conceptual model

Chapter 3: Research Questions and Research Design

Chapter 2 depicts a clear review of job burnout, job engagement, job demand-resource theory, demand-control theory and ERI theory, and the research hypotheses and conceptual model of this research are proposed. On its basis, this chapter first summarizes the key research questions for the content to be discussed in this research; then provides the definition of research variables, and divide their dimensions in detail. Finally, the variable scale and questionnaire to be used in this research are designed and tested.

3.1 Research questions

Although domestic and foreign scholars have conducted a large number of studies on job burnout and job engagement, an in-depth scrutiny of the literature identifies four main issues. First, although these two working conditions have long been the focus of human resource management and organizational behavior, there are few researches in medical field on taking job burnout and job engagement as outcome variables into JD-R model. Second, domestic related research started late, focusing mainly on descriptive status analysis and discussion of influencing factors, without forming a relatively complete attribution model. Third, the industry characteristics and innovation of job demands are not strong, and the unique job demands of the current medical industry are not deeply explored. Fourth, the values and attitudes related to culture are seldom studied as personal resources, and the possibility of their being used as moderators is largely ignored.

Based on the above argument, this research aims to construct an attribution model of job burnout and job engagement of medical staff in the tertiary public hospitals of Guizhou province, and the relationship among job demands, job resources, job burnout and job engagement will be clarified, and the role of Confucian coping in it will be discussed as well.

The following are the specific research questions of this study:

1. What are the job characteristics of medical staff in the tertiary public hospitals? And what's the main job characteristics that affect the job burnout and job engagement of medical staff in tertiary public hospitals?

2. Are there any differences in perceived job resources and job demands, as well as differences in job engagement and job burnout among medical staff with different social

demographic characteristics?

3. Is it possible to construct the attribution model of job burnout and job engagement from the perspective of JD-R model?

4. Can Confucian coping be adopted as a personal resource in the study of job burnout and job engagement of medical staff? What role do Confucian coping play in it?

3.2 Definition of variables

Based on the literature review in Chapter 2, this section defines the basic concepts of the main variables in this study, laying a foundation for the next research.

Job burnout: The degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work (Kristensen et al., 2005).

Job engagement: A positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. *Vigor* is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. *Dedication* refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. *Absorption*, is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Schaufeli et al., 2002).

Job demand: The physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs (Demerouti et al., 2001).

Work overload: One's personal assessment of available time and resources to do the expected work and whether what is expected of them are exceeding what is perceived as legitimate (Leiter & Stright, 2009)

Work-home conflict: A form of inter-role conflict in which the role pressures from work and family (home) domains are mutually incompatible in some respect (Beutell, 1985).

Research stress: The very nature of scientific research stress is work stress, which is an individual's cognitive evaluation of the external environment. In real life, there are many sources of scientific research pressure, such as completing research projects and publishing high-quality academic papers (Zhang et al., 2013; Zhou, 2009)。

Perceived public disunity: Perceived practices of the public that do not meet the

collective goal of epidemic prevention and control (for example, not wearing masks or not vaccinating) (Sumner & Kinsella, 2021).

Workplace violence: Any incident where staff are abused, threatened, or assaulted in circumstances relating to their work, including commuting to and from work (Tang & Thomson, 2019).

Job resources: The work factors that can provide support and help for workers, which can help to achieve work objectives, reduce job demands and related physiological and psychological costs, and stimulate personal growth, learning and development (Demerouti et al., 2001).

Perceived career opportunity: Employees' perceptions of the degree to which work assignments and job opportunities that match their career interests and goals are available within their current organization (Kraimer et al., 2011).

Person-job fit: The matching of people's ability and job demands, or the matching of people's demands and job features (Edwards, 1991).

Organizational status perception: Employees' subjective cognition of autonomy and organizational support in their enterprises, and the feelings and judgments based on the organizations' attention and support for themselves (Shan et al., 2015).

Interpersonal relationship: Relationships with leaders and colleagues, and patients' respect and recognition for individuals (Wang et al., 2017).

Organizational justice: Employees' judgment, perception and feeling of fairness. Organizational fairness includes distribution fairness, process fairness and interaction fairness. Equity, i.e., personal perception of whether the result of organizational resource allocation is fair, emphasizes the result and content of decision-making; For procedural fairness, whether the standards or evaluation methods on which the organization decides any reward and punishment decisions conform to the principle of fairness, emphasizes the fair procedure of determining the results; Equity refers to the individual's perception of whether the organization will be treated fairly before the decision is made, including whether the organization communicates with employees, refers to employees' opinions, and sympathizes with employees' positions (Cropanzano et al., 2001).

Confucian coping: Such approaches believes that setbacks and other hardships (that is, what we generally call stress) exist. They are caused by random reasons that individuals can't control, and individuals should not be responsible for the results of hardships. People can be chastened by hardships, and those who can withstand hardships can achieve their careers. Therefore, in the face of hardship, accept it, but do not give up on yourself. Take the

opportunity to cultivate one's character, exercise one's will, improve one's ability and prepare for future opportunities (Jing, 2006).

3.3 Research design and method

Based on the literature review and the overall theoretical research model, this research will adopt the quantitative method, questionnaire survey, to test the hypotheses. The research design mentioned in this chapter mainly refers to the questionnaire design and specific measurement process in the questionnaire survey method. Because the measurement of variables in this research is mainly achieved by using the scale tool through the questionnaire survey method, the process of scale selection, questionnaire design and measurement will determine the quality and reliability of the sample data obtained. Thus, this section focuses on scale selection and questionnaire design.

3.3.1 Scale

3.3.1.1 Measurement of job resources

Job resources were assessed via a questionnaire that included 18 items, these 18 items were grouped into 5 factors: perceived career opportunity (3 items) from (Jingyun et al., 2017; Kraimer et al., 2011), Person-Job fit (4 items) from (Singh & Greenhaus, 2004), organizational status perception (4 items) from (Shan et al., 2015), interpersonal relationship (4 items) from (Wang et al., 2017), organizational justice (3 items) from (Jordan & Turner, 2008). Specific measurement items are shown in Table 3.1.

Table 3.1 Measurement of job resources

Variable	Dimension	Index	Item	Source
Job resources	Perceived career opportunity (PCO)	PCO1	There are career opportunities within my hospital that are attractive to me.	(Jingyun et al., 2017; Kraimer et al., 2011)
		PCO2	There are job opportunities available within my hospital that are of interest to me.	
		PCO3	My hospital offers many job opportunities that match my career goals.	
	Person-Job fit (PJF)	PJF1	I have a good fit with my job.	(Singh & Greenhaus, 2004)
		PJF2	The demands of my new job match my specific talents and skills.	
		PJF3	I fit in well with my work environment.	
		PJF4	My personality and temperament match my work.	
	Organizational status perception	JA1	I have decision rights in my work.	(Shan et al., 2015)
		JA2	The hospital treated me with respect.	
		POS1	My hospital will consult me when making	

Variable	Dimension	Index	Item	Source
	(OSP)		important decisions.	
		POS2	When I wanted to leave, the hospital would hold me back.	
		IR1	I get along well with the department leaders	
	Interpersonal relationship (IR)	IR2	I get along well with colleagues in the department.	(H. Wang & Y. Qian et al., 2017b)
		IR3	I feel appreciated by the patient I work for.	
		IR4	I get along well with the administrative and logistics management personnel.	
		OJ1	I feel that the rewards I receive from my work are fair.	
	Organizational Justice (OJ)	OJ2	I feel the formal policies and procedures used to make decisions are fair.	(Jordan & Turner, 2008)
		OJ3	In all aspects of the work environment I feel that my primary supervisor treats me in a fair manner.	

3.3.1.2 Measurement of job demands

Job demands were assessed via a questionnaire that included 18 items, these 18 items were grouped into 5 factors: workload (3 items) from the QEEW (Veldhoven & Meijman, 1998), work-home conflict (3 items) from (Fein & Skinner, 2015), research stress(3 items) from Zhou Fei (2009), perceived public disunity (2 items) was developed ad hoc, workplace violence (7 items) from Zhang (2016). All the scales are on a six-point response option from 1 = almost never to 6 = always. Specific measurement items are shown in Table 3.2.

Table 3.2 Measurement of job demands

Variable	Dimension	Index	Item	Source
	Work overload (WO)	WO1	I have to work very fast.	(Veldhoven & Meijman, 1998),
		WO2	I have too much work to do.	
		WO3	I have to work extra hard in order to complete my job.	
	Work-home conflict (WHC)	WHC1	My work keeps me from spending the amount of time I would like with family or friends.	(Fein & Skinner, 2015)
		WHC2	My work interferes with my responsibilities or activities outside of work.	
Job demands (JD)		WHC3	My work interferes with my ability to develop or maintain connections and friendships in my community.	
	Research stress (RS)	RS1	I was worried about how to complete the research task.	(Zhou, 2009)
		RS2	I feel a lot of pressure from my research work.	
		RS3	I was depressed and unhappy about my research work.	
	Perceived public disunity (PPD)	PPD1	People in my city are very cooperative with the public health demands (wearing masks, social distancing, avoiding crowds).	Ad hoc
		PPD2	People in my city are actively vaccinated against COVID-19.	
	Workplace	WV1	Verbal aggression of patients or family	(D. Zhang

Variable	Dimension	Index	Item	Source
	violence (WV)		members.	et al., 2016)
		WV2	Physical aggression of patients or family members.	
		WV3	Sexual harassment of patients or family members.	
		WV4	Defamation of reputation by patients or their family members.	
		WV5	Patients or family members' harsh difficulties.	
		WV6	Obstruction of work by patients or their family members.	
		WV7	Threats from patients or family members.	

3.3.1.3 Measurement of job engagement

Job engagement was assessed via a nine-item Chinese version of the Utrecht Work Engagement Scale (UWES-9). The UWES-9 developed by Schaufeli (2006) includes scales measuring vigor (three items), dedication (three items), and absorption (three items) on a six-point response option from 1 = almost never to 6 = always. Specific measurement items are shown in Table 3.3.

Table 3.3 Measurement of job engagement

Variable	Dimension	Index	Item	Source
Job engagement (JE)	Vigor (VIG)	VIG1	At my work, I feel bursting with energy.	(Schaufeli et al., 2006)
		VIG2	At my job, I feel strong and vigorous.	
		VIG3	When I get up in the morning, I feel like going to work.	
	Dedication (DED)	DED1	I am enthusiastic about my job.	
		DED2	My job inspires me.	
		DED3	I am proud on the work that I do.	
	Absorption (ABS)	ABS1	I feel happy when I am working intensely.	
		ABS2	I am immersed in my work.	
		ABS3	I get carried away when I'm working.	

3.3.1.4 Measurement of job burnout

Job burnout was assessed via a seven-item Chinese version of the work-related burnout scale from the Copenhagen Burnout Inventory (J. Wu et al., 2020; Kristensen et al., 2005;). Respondents will be asked to rate the job burnout using a six-point Likert scale (where 1 is almost never and 6 is Always). Total score for the work-related burnout scale (range 1-6) was calculated by averaging item scores. Specific measurement items are shown in Table 3.4.

Table 3.4 Measurement of job burnout

Variable	Index	Item	Source
Job burnout (JB)	JB1	I feel worn out at the end of the working day.	(Kristensen et al., 2005)
	JB2	I feel exhausted in the morning at the thought of another day at work.	
	JB3	I feel that every working hour is tiring for me.	
	JB4	I do not have enough energy for family and friends during leisure time.	

	JB5	My work is emotionally exhausting.
	JB6	My work frustrates me.
	JB7	I feel burnt out because of my work.

3.3.1.5 Measurement of personal resource

Personal resource. Confucian coping was assessed via a 15 items Chinese version of Confucian coping questionnaire. It is developed by Jing Huaibin (2006) includes scales measuring internal positivity towards adversity (3 items), awareness of destination (3 items), people's responsibilities (4 items), effects of adversities (5 items) on a six-point response option from 1 = Totally disagree to 6 = Totally agree. Specific measurement items are shown in Table 3.5.

Table 3.5 Measurement of Confucian coping

Variable	Dimension	Index	Item	Source
Confucian coping (CC)	Optimism in the adversity (OA)	OA1	Feeling hopeful for the future even in the midst of your worst failures.	(Jing, 2006)
		OA2	Always try to learn from setbacks.	
		OA3	When "luck" is bad, we try to develop ourselves and prepare for the future.	
	The viewpoints to "fate" (VF)	VF1	Life is the result of the random action of various external factors.	
		VF2	Life is good or bad, is determined by the external, mysterious "fate".	
		VF3	Destiny is mysterious and predetermined.	
	The responsibility as human beings (RH)	RH1	You are in control of events.	
		RH2	In modern society, a person's moral character is not important.	
		RH3	People are hardly intrinsically good.	
		RH4	Human beings naturally assume social responsibilities.	
	The role of adversity to individual growing (AIG)	AIG1	Without the hone of suffering, there can be no strong will.	
		AIG2	Frustration is a bad thing, not a good thing.	
		AIG3	Life is too smooth, will not have great promise.	
		AIG4	Fear setbacks.	
		AIG5	Through a lot of setbacks, to do great things.	

3.3.2 Methodology of questionnaire design

In social science research, scholars often collect data through questionnaires, and the same in the field of management. The design of the questionnaire should follow the principle of being scientific and operable. In the previous section, the initial questionnaire items of the main variables involved in the theoretical model were designed. The overall design process of this research questionnaire will be described below.

3.3.2.1 Structure of the questionnaire

As Ongena and Dijkstra (2010) put forward suggestions on the arrangement of the items in the questionnaire, this questionnaire is accordingly designed by setting the relevant personal background questions of the subjects first, so that the respondents can easily enter the question-and-answer state, and then setting the main part of the questionnaire. The questionnaire of this study consists of three parts: general introduction, background items and the main body of the questionnaire:

(1) General introduction. Make a general statement on the basic matters of this questionnaire survey, including the purpose, significance, privacy statement, and the time required for answering the questionnaire survey. This part should focus on two things: First, the respondents are required to answer carefully, suggesting that "there are no right or wrong questions in the answers in the questionnaire, and objective answers are crucial to the quality of this survey"; The second is to make a promise to the privacy of the respondents, suggesting that "the answers will be kept strictly confidential, only handled by researchers, and will not be passed on to anyone, including leaders, colleagues and subordinates."

(2) Background items, which focuses on their demographic information, including sex, age, education level, years of working in the current hospital, position, professional title, number of hours worked per week, number of nights on call per week, specialty, way of employing.

(3) The main body of questionnaire. The main part of the questionnaire of this research uses 67 measurement items to measure the main variables. Referring to the theoretical model of this study, the scales corresponding to the main part of the questionnaire are arranged in order from the former dependent variable to the result variable, and the measurement items that measure the same variable are arranged together. All items used in the survey will be measured on a 6-point Likert scale ranging from 1-strongly disagree to 6-strongly agree. An even number of points rather than an odd number is used because Chinese people tend to answer in the middle. It is hoped to prevent this response bias by not including a mid-point on the scale (Chiu & Yang, 1987).

3.3.2.2 Process of developing the questionnaire

The questionnaire of this study is developed according to the following process:

(1) Define the concept of each variable to be measured in the theoretical model clearly, and define each variable operationally. On the premise of literature review and summary, the definition of research variables is clearly defined, paving the way for designing an appropriate

measurement scale for each variable.

(2) Based on the previous research results, design appropriate variable measurement tools. On the basis of careful investigation of relevant literature at home and abroad, a scale that can match the variables in this study is found, and a targeted scale is designed by referring to the conceptual connotation of each variable, the reliability and validity of the corresponding scale in past tests and its frequency.

(3) Design the questionnaire. In order to avoid the common method deviation, the predicted variables and predicted variables should be properly treated in the questionnaire design. Moreover, the prepared prompt words for each questionnaire will help respondents to clarify the exact meaning of each question.

(4) Write a cover and a questionnaire test instruction letter. In the guide of the questionnaire cover, the purpose and key points of this questionnaire are briefly explained, with special emphasis on the anonymous way of answering this questionnaire, which is only for academic research and completely protects the privacy of respondents. This will help the subjects to relieve their worries and answer questions realistically.

(5) Interview, group discussion and questionnaire adjustment. In order to make the designed questionnaire items scientific and systematic, group discussion and expert interview are used to demonstrate the questionnaire. Adjust the questionnaire with reference to the relevant conclusions of the demonstration, delete redundant items, and modify unreasonable or even ambiguous items until all the measurement items are approved by the questionnaire designers.

(6) Questionnaire test. 100 subjects were randomly selected as the distribution objects of the questionnaire, and the related scales involved in this questionnaire were analyzed by pre-analysis, and the questionnaire items were carefully revised according to the analysis results. On this basis, the reliability and validity of the adjusted scale are re-verified to ensure the accuracy and validity of the final measurement results.

3.4 Questionnaire structure and measuring process

3.4.1 Questionnaire structure

Based on the questionnaire development process discussed above, the final formal questionnaire contains a total of 67 items, in order to measure the main research variables. See the Annex B for the specific measurement items.

3.4.2 Measuring process

3.4.2.1 Sampling method

The definition of medical staff is licensed physicians, registered nurses, pharmacists (assistant pharmacists), medical laboratory technicians (inspectors), and medical imaging technicians.

The stratified sampling principle was adopted in this research. First, identified the sample hospitals. There are 34 tertiary public hospitals in 9 cities of Guizhou Province, including 11 in Guiyang, 6 in Zunyi, 2 in Liupanshui, 3 in Anshun, 2 in Bijie, 2 in Tongren, 2 in Qianxinan, 3 in Qiandongnan, and 3 in Qiannan. According to the principle of 40% extraction from each city, a total of 14 sample hospitals were determined, including 5 in Guiyang, 2 in Zunyi, 1 in Liupanshui, 1 in Anshun, 1 in Bijie, 1 in Tongren, 1 in Qianxinan, 1 in Qiannanan, and 1 in Qiannan. Secondly, determined the sample size of each hospital proportionally according to the total number of staff in each sample hospital. Thirdly, determined the sample size of each position in each sample hospital. According to *China Health Statistics Yearbook* (2021), there were 51,638 licensed doctors, 94,926 registered nurses, and 16,857 pharmacists and technicians in the hospitals of Guizhou Province (the ratio structure of licensed doctors: registered nurses: pharmacists and technicians was about 1:1.84:0.33). According to the proportion principle, the sample number of each position is determined. See Table 3.6 for the specific sampling plan.

Table 3.6 Sampling plan

Hospital No.	District	Total number of staff	Sample size	Doctors	Nurses	Pharmacists and technicians
1	Guiyang	5200	299	96	173	30
2	Guiyang	5170	297	95	172	30
3	Guiyang	1026	59	19	34	6
4	Guiyang	1327	76	24	44	8
5	Guiyang	1800	104	33	60	10
6	Zunyi	4374	252	81	146	25
7	Zunyi	2868	164	52	95	16
8	Liupanshui	1500	86	28	50	9
9	Anshun	2000	115	37	67	12
10	Bijie	1722	99	32	57	10
11	Qiandongnan	2248	129	41	75	13
12	Qiannan	1717	99	32	57	10
13	Qianxinan	2135	123	39	71	12
14	Tongren	1700	98	31	57	10
	Total	34787	2000	640	1160	200

3.4.2.2 Sampling process and quality control

The evaluation process began by contacting the medical department of the various hospitals to

obtain the necessary authorization to conduct the study and request their cooperation. Then, we proceeded with explaining the goals of the investigation. After the authorization was given, the questionnaires were sent online, completed and returned. Third, set the minimum time rule. The online survey system will mark and judge the questionnaire as invalid if the answer time is less than 1 minute. Fourth, set the limit of the answering district to ensure that the survey is filled out by the medical staff of the hospital. This procedure maximally ensures the quality and validity of data. The period of data collection took about three months (from January to March 2022). It is also important to refer that all of the ethical and legal procedures were followed.

3.4.3 Sample overview

In this research, a total of 2000 questionnaires were distributed and 1705 questionnaires were collected, among which 1653 were valid, with an effective rate of 82.65%.

3.4.3.1 Socio-demographic characteristics of the sample

We used SPSS26.0 to do the descriptive statistics of the sample about these questionnaires (See Table 3.7). Descriptive statistical analysis included sex, age, education level, years of working in the current hospital, position, professional title, number of hours worked per week, number of nights on call per week, specialty, way of employing. According to the statistical results, among the sample of 1653 medical staff, we can see 10 aspects.

(1) 1261 people were female, accounting for 76.29%, and 392 people were male, accounting for 23.71%.

(2) In the aspect of age structure, 419 people below 30, accounting for 25.35%, 908 people between 30 and 40 (54.93%), 236 people between 41 and 50 (14.28 %), 88 people between 51 and 60, accounting for 5.32%, and only 2 people aged above 60, accounting for 0.12%.

(3) In the aspect of education, most people got bachelor degree or tertiary college, totally 1384 people, accounting for 83.73%; 213 people got master degree (12.89%); 46 people got doctor degree (2.78%) and 10 people got high school degree or below, accounting for 0.60%.

(4) In the aspect of working in the current hospital, 396 people had worked in the current hospital below 5 years, accounting for 23.96%; 425 people worked 5-9 years, accounting for 25.71%; and 477 people worked 10-15 years, accounting for 28.86%, 355 people worked more than 16 years, accounting for 21.48%.

(5) In the aspect of position, 517 were doctors, accounting for 31.28%; 960 were nurses

(58.08%); 133 were technicians (8.05%); 43 were pharmacists (2.6%).

(6) In the aspect of professional title, most people got primary professional titles, totally 679 people, accounting for 41.08%; 575 people got intermediate professional titles (34.79%); 287 people got sub-senior professional title or above, accounting for 17.36% and 112 people were no title (6.78%).

(7) In the aspect of working hours, most people worked between 40-49 hours per week, totally 890 (53.84%); 286 people worked between 50-59 hours per week (17.30%); 137 people worked between 60-69 hours per week (8.29%); 132 people worked over 70 hours per week (7.98%).

(8) In the aspect of nights on call, 653 people did not need to be on call at night, accounting for 39.5%; 788 people were on call at night 1-2 times per week (47.67%); 212 people were on call at night more than 3 times per week (12.82%).

(9) In the aspect of specialty, 460 people were in the general internal medicine (27.83%); 334 people were in the general surgery (20.21%); 148 people were in the obstetrics and gynecology (8.95%); 191 people were in the pediatrics (11.55%); 68 people were in the emergency medicine (4.11%); other specialty showed in Table 3.6.

(10) In the aspect of way of employing, 848 people were contract workers, accounting for 51.30%; 805 people were regular, accounting for 48.70%.

Table 3.7 Demographic information about the participants (n=1653)

Items	Categories	N	Percent (%)
sex	Female	1261	76.29
	Male	392	23.71
Age	Under 30	419	25.35
	30~40	908	54.93
	41~50	236	14.28
	51~60	88	5.32
	Above 60	2	0.12
Education level	High school degree	10	0.60
	Bachelor degree or tertiary college	1384	83.73
	Master degree	213	12.89
	Doctor degree	46	2.78
Years of working in the current hospital	5 years or below	396	23.96
	5-9 years	425	25.71
	10-15 years	477	28.86
	16-20 years	153	9.26
	More than 20 years	202	12.22
Position	Doctor	517	31.28
	Nurse	960	58.08
	Technician	133	8.05
	Pharmacist	43	2.60
Professional title	No title	112	6.78
	Primary professional titles	679	41.08
	Intermediate professional titles	575	34.79

Items	Categories	N	Percent (%)
	Sub-senior professional title	206	12.46
	Senior professional title	81	4.90
Number of hours worked per week	40 hours or below	208	12.58
	40-49 hours	890	53.84
	50-59 hours	286	17.30
	60-69 hours	137	8.29
	70-79 hours	70	4.23
	More than 80 hours	62	3.75
Number of nights on call per week	Non	653	39.50
	1-2 times	788	47.67
	3-4 times	182	11.01
	More than 5 times	30	1.81
Specialty	General internal medicine	460	27.83
	General surgery	334	20.21
	Obstetrics and gynecology	148	8.95
	Pediatrics	191	11.55
	Emergency medicine	68	4.11
	Stomatology	20	1.21
	Dermatology	3	0.18
	Traditional Chinese medicine	30	1.80
	Ophthalmology	6	0.36
	Otorhinolaryngology	11	0.67
	Oncology	78	4.72
	Anesthesiology	76	4.60
	Radiology	118	7.14
	Laboratory medicine	66	3.99
	Pharmacy department	44	2.66
Way of employing	Contract	805	48.70
	Regular	848	51.30
Total		1653	100.0

3.4.3.2 Descriptive statistical analysis of sample data

With the development of the initial questionnaire, scientific empirical methods are always followed in the process of measurement, and the data are pre-tested by descriptive statistical analysis, discrimination analysis and exploratory factor analysis in turn. By calculating the mean, standard deviation, Skewness and Kurtosis of the corresponding data of each scale item, the concentration trend, dispersion degree and distribution form of the data are analyzed. The relevant data are shown in Annex A Table a.1. The absolute values of skewness and kurtosis of each item in the survey data are all less than 3, and the sample data is normally distributed, meeting the conditions for subsequent analysis.

3.4.3.3 Common Method Biases

Common Method Biases refer to the artificial covariation between the predicted variables and the target variables caused by the same data source or rater, the same measurement environment, the project context and the characteristics of the project itself. This kind of

artificial covariation seriously confuses the research results and potentially misleads the conclusions, which is a systematic error. In this research, Harman single factor test is carried out on all the scale items, and the results showed that the variance explanation rate of the first factor that did not rotate in principal component factor analysis was 28.048%, which was less than 50%, so there was no serious common method deviation in the questionnaire (Podsakoff et al., 2003).

3.5 Reliability and validity test of scale items

Reliability represents the consistency or stability of the scale. The reliability coefficient can also be used as one of the homogeneity test indexes in project analysis. In the field of social science, the reliability of Likert scale is estimated by Cronbach's α, CITC (Corrected Item-Eigenvalues Correlation, the correlation between the corrected items and the whole) and CAID (Cronbach's Alpha if Item Deleted, that is, Cronbach's alpha coefficient after item deletion) measure the research construct and its dimensions, among which Cronbach's alpha coefficient is the most widely used. The clonal Bach α coefficient, also known as internal consistency α coefficient, has a value between 0 and 1. The higher the value, the more reliable it is. It is generally believed that when the coefficient reaches 0.7, it has a good reliability, and when it is greater than 0.8, it has an ideal reliability. CITC indicates the correlation between each item corresponding to a certain dimension. Usually, this value is greater than 0.4, which means that a certain item has a high correlation with other items. On the other hand, CAID indicates the change of Cronbach's α coefficient of the whole scale after the question is deleted. The closer the behavioral traits to be measured in each item of the scale are, the higher the Cronbach's α coefficient will be; On the contrary, the Cronbach's α coefficient will be low if the behavioral traits to be measured by each item of the scale are quite different. At this time, the connotation of the level or structure contained in the scale may not be of the same quality. If the CAID is obviously higher than the Cronbach's α dimension, it is considered reasonable to delete the item. On the contrary, if the CAID is less than or equal to the Cronbach's α dimension, there is no obvious evidence to support the deletion of the item.

Validity refers to the degree to which the desired psychological or behavioral traits can be measured. American Psychological Association divides validity into content validity, criterion-related validity and structural validity. Content validity requires qualitative research by experts, while correlation validity of school standards needs to have recognized school standards, which are difficult to achieve. Structural validity is based on theoretical logical

analysis, and at the same time, the correctness of the theory is tested according to the actual data. Therefore, it is a rigorous validity testing method, and it can avoid logical analysis but no empirical basis for content validity (Yi & Li, 2019). The most used method of testing structural validity is Factor Analysis, which has two kinds: Exploratory Factor Analysis, EFA and Confirmatory Factor Analysis, CFA (Wu, 2010). In this research, both analyses are used to ensure the structural validity of the questionnaire.

3.5.1 Reliability and validity analysis of job resource scale

3.5.1.1 EFA of job resource scale

The feasibility of factor analysis is verified by KMO and Bartlett's sphericity test. The analysis results show that KMO=0.915>0.7, Bartlett's sphericity test chi-square value =15029.280, degree of freedom (df) =153, P<0.001, the null hypothesis is rejected, and the factor analysis conditions are met, so factor analysis can be carried out.

The results of EFA are shown in Annex A Table a.2. The cumulative variance contribution rate is 74.779%>60%, that is, when six common factors are extracted, the information contained accounts for 74.779% of the total information. Principal component analysis strategy can better cover the main information. By principal component factor analysis, the factor matrix is rotated by the maximum variance method, and the factor load is higher than 0.4. After the rotation, the components of common factors are in line with the original hypothesis, and the common factors are: person-job fit, interpersonal relationship, perceived career opportunities, organizational fairness, organizational support and work autonomy; Combined with KMO=0.915>0.7 and cumulative variance contribution rate =74.779%>60%. Therefore, from the perspective of exploratory factor analysis, the validity of the work resource scale is good.

3.5.1.2 Reliability analysis of job resource scale

The reliability of the variables involved in the job resource scale is analyzed, and the Cronbach's α values of each variable and its measurement items are shown in Annex A Table a.3. It can be seen from the table that Cronbach's α values of each dimension are all above 0.7. According to the aforementioned judgment rules, it shows that these variables have good consistency and stability. In addition, the minimum value of CITC is 0.580, which is larger than the minimum acceptable value of 0.4, and the α value of each measurement item after deletion is smaller than Cronbach's α value, which indicates that all variables in the scale have high reliability and can depict the sample stably and consistently.

3.5.1.3. CFA of job resource scale

Based on the theoretical structure of the scale and the results of EFA, the validity of the questionnaire is further discussed by CFA, and the first-order six-factor analysis model of the scale is established by M plus. The fitting degree of the model is shown in Annex A Table a.4.

CFA model fit index shows that RMSEA, SRMR, CFI and TLI all meet the fitting standard, and it is considered that the model can be supported by data, with a good structure and good validity of discrimination between dimensions. The results of CFA are shown in Annex Table 5. The results show that, firstly, the normalized path coefficients (i.e., factor loads) are all >0.5, indicating that the factor loads are all large; Secondly, the Average Variance Extracted (AVE) of each variable is greater than 0.50, which indicates that the latent variables in this study have good convergence validity. The Composite Reliability (CR) of each variable is higher than 0.70, so the latent variables in this study have good composite reliability. Therefore, from the perspective of confirmatory factor analysis, it is considered that the job resource scale has good validity.

3.5.2 Reliability and validity analysis of job demand scale

3.5.2.1 EFA of job demand scale

The feasibility of factor analysis is verified by KMO and Bartlett's sphericity test. The analysis results show that KMO=0.918>0.7, Bartlett's sphericity test chi-square value= 20,533.467, degree of freedom (df) =153, P<0.001. The null hypothesis is rejected and the factor analysis conditions are met, so factor analysis can be carried out.

The results of exploratory factor analysis are shown in Annex A Table a.6, and the cumulative variance contribution rate is 77.355%>60%, that is, when five common factors are extracted, the contained information accounts for 77.355% of the total information, and the principal component analysis strategy can better cover the main information. By principal component factor analysis, the factor matrix is rotated by the maximum variance method, and the factor load is higher than 0.4. After the rotation, the common factors are in line with the original hypothesis, and the common factors are: workplace violence, research pressure, work-family conflict, work load, and perceived public disunity; Combined with KMO=0.918>0.7 and cumulative variance contribution rate =77.355%>60%. Therefore, from the perspective of exploratory factor analysis, the validity of job demand scale is good.

3.5.2.2 Reliability analysis of job demand scale

The reliability of the variables involved in the job demand scale is analyzed, and the Cronbach's α values of each variable and its measurement items are shown in Annex A Table a.7. It can be seen from the table that Cronbach's α values of each dimension are all above 0.7. According to the aforementioned criteria, it shows that these variables have good consistency and stability. In addition, the minimum value of CITC is 0.630, which is larger than the minimum acceptable value of 0.4, and the α value of each measurement item after deletion is smaller than Cronbach's α value, which indicates that all variables in the scale have high reliability and can depict the sample stably and consistently.

3.5.2.3 CFA of job demand scale

Based on the theoretical structure of the scale and the results of exploratory factor analysis, the validity of the scale is further discussed by confirmatory factor analysis, and the first-order five-factor analysis model of the scale is established by M plus. The fitting degree of the model is shown in Annex A Table a.8.

CFA model fitting index shows that RMSEA, SRMR, CFI and TLI all meet the fitting standard, and it is considered that the model can be supported by data, with good model structure and good validity of discrimination between dimensions. The confirmatory factor analysis results are shown in Annex A Table a.9. The analysis results show that, firstly, the normalized path coefficients (i.e., factor loads) are all >0.5, indicating that the factor loads are all large; Secondly, the Average Variance Extracted (AVE) of each variable is greater than 0.50, which indicates that the latent variables in this study have good convergence validity. The Composite Reliability (CR) of each variable is higher than 0.70, so the latent variables in this research have good composite reliability. Therefore, from the perspective of confirmatory factor analysis, the validity of job demand scale is considered to be good.

3.5.3 Reliability and validity analysis of job engagement scale

3.5.3.1 EFA of job engagement scale

The feasibility of factor analysis is verified by KMO and Bartlett's sphericity test. The analysis results show that KMO=0.880>0.7, Bartlett's sphericity test chi-square value=8,485.017, degree of freedom (df) =36, $p<0.001$. The null hypothesis is rejected and the factor analysis conditions are met, so factor analysis can be carried out.

The results of exploratory factor analysis are shown in Annex A Table a.10. The

cumulative variance contribution rate is 78.385%>60%, that is, when three common factors are extracted, the contained information accounts for 78.385% of the total information. Principal component analysis can better cover the main information. By principal component factor analysis, the factor matrix is rotated by the maximum variance method, and the factor load is higher than 0.4. After the rotation, the common factors are in line with the original hypothesis, and the common factors are vitality, concentration and dedication; Combined with KMO=0.880>0.7 and cumulative variance contribution rate=78.385%>60%. Therefore, from the perspective of exploratory factor analysis, the work engagement scale has good validity.

3.5.3.2 Reliability analysis of job engagement

The reliability of variables involved in job engagement scale is analyzed, and Cronbach's α values of each variable and its measurement items are shown in Annex A Table a.11. It can be seen from the table that Cronbach's α values of each dimension are all above 0.7. According to the aforementioned judgment rules, it shows that these variables have good consistency and stability. In addition, the minimum value of CITC is 0.676, which is larger than the minimum acceptable value of 0.4, and the α value of each measurement item after deletion is smaller than Cronbach's α value, which indicates that all variables in the scale have high reliability and can depict the sample situation stably and consistently.

3.5.3.3 CFA of job engagement scale

Based on the theoretical structure of the scale and the results of exploratory factor analysis, the validity of the scale is further discussed by confirmatory factor analysis, and the first-order three-factor analysis model of the scale is established by M plus. The fitting degree of the model is shown in Annex A Table a.12.

CFA model fitting index shows that RMSEA, SRMR, CFI and TLI all meet the fitting standard, and it is considered that the model can be supported by data, with good model structure and good validity of discrimination between dimensions. The results of are shown in Annex A Table a.13. The analysis results show that, firstly, the normalized path coefficients (i.e. factor loads) are all >0.5, indicating that the factor loads are all large; Secondly, the Average Variance Extracted (AVE) of each variable is greater than 0.50, which indicates that the latent variables in this study have good convergence validity. The Composite Reliability (CR) of each variable is higher than 0.70, so the latent variables in this study have good composite reliability. Therefore, from the perspective of CFA, the validity of job engagement scale is good.

3.5.4 Reliability and validity of job burnout scale

3.5.4.1 EFA of job burnout scale

The feasibility of factor analysis is verified by KMO and Bartlett's sphericity test. The analysis results show that KMO=0.916>0.7, Bartlett's sphericity test chi-square value = 5,696.152, degree of freedom (df) =21, $p<0.001$, the null hypothesis is rejected, and the conditions of factor analysis are met, so factor analysis can be carried out.

The results of exploratory factor analysis are shown in Annex A Table a.14. The cumulative variance contribution rate is 61.263% >60%, that is, when a common factor is extracted, the information contained accounts for 61.263% of the total information. Principal component analysis can better cover the main information. By principal component factor analysis, the factor matrix is rotated by the maximum variance method, and the factor load is higher than 0.4. After the rotation, each common factor component conforms to the original hypothesis, and the common factor is job burnout; Combined with KMO=0.916>0.7 and cumulative variance contribution rate=61.263%>60%. Therefore, from the perspective of exploratory factor analysis, the job burnout scale has good validity.

3.5.4.2 Reliability analysis of job burnout scale

The reliability of variables involved in job burnout scale is analyzed, and Cronbach's α values of each variable and its measurement items are shown in Annex A Table a.15. It can be seen from the table that Cronbach's α value of the scale is above 0.7. According to the aforementioned criteria, it shows that these variables have good consistency and stability. In addition, the minimum value of CITC is 0.649, which is larger than the minimum acceptable value of 0.4, and the α value of each measurement item after deletion is smaller than Cronbach's α value, which indicates that all variables in the scale have high reliability and can depict sample stably and consistently.

3.5.4.3 CFA of job burnout scale

Based on the theoretical structure of the scale and the results of EFA, the validity of the scale is further discussed by CFA, and M plus is used to establish a confirmatory factor analysis model of the scale. The fitting degree of the model is shown in Annex A Table a.16.

CFA model fitting index shows that RMSEA, SRMR, CFI and TLI all meet the fitting standard, and it is considered that the model can be supported by data, with a good model structure and good validity of discrimination between dimensions. The results of confirmatory factor analysis are shown in Annex A Table a.17. The analysis results show that, firstly, the

normalized path coefficients (i.e., factor loads) are all >0.5, indicating that the factor loads are all large; Secondly, the Average Variance Extracted (AVE) of each variable is greater than 0.50, which indicates that the latent variables in this study have good convergence validity. The Composite Reliability (CR) of each variable is higher than 0.70, so the latent variables in this study have good composite reliability. Therefore, from the perspective of CFA, the validity of job burnout scale is considered to be good.

3.5.5 Reliability and validity analysis of Confucian coping scale

3.5.5.1 EFA of Confucian coping scale

The feasibility of factor analysis is verified by KMO and Bartlett's sphericity test. The analysis results show that KMO=0.907>0.7, Bartlett's sphericity test chi-square value =11889.014, degree of freedom (df) =105, $p<0.001$. The null hypothesis is rejected and the factor analysis conditions are met, so factor analysis can be carried out.

The results of EFA are shown in Annex A Table a.18. The cumulative variance contribution rate is 68.321% > 60%, that is, when four common factors are extracted, the information contained accounts for 68.321% of the total information. Principal component analysis can better cover the main information. By principal component factor analysis, the factor matrix is rotated by the maximum variance method, and the factor load is higher than 0.4. After the rotation, the components of common factors conform to the original hypothesis, and the common factors are: optimization in the adversity, The viewpoints to "fate", The responsibility as human beings, the role of aggression to individual growth; Combined with KMO=0.916>0.7 and cumulative variance contribution rate=68.321%>60%. Therefore, from the perspective of EFA, the validity of coping approaches based on confusion scale is good.

3.5.5.2 Reliability test of Confucian coping scale

The reliability of the variables involved in the Confucian coping scale is analyzed. The Cronbach's α values of each variable and its measurement items are shown in Annex A Table a.19. It can be seen from the table that Cronbach's α values of each dimension are all above 0.7. According to the aforementioned judgment rules, it shows that these variables have good consistency and stability. In addition, the minimum value of CITC is 0.649, which is larger than the minimum acceptable value of 0.4, and the α value of each measurement item after deletion is smaller than Cronbach's α value, which indicates that all variables in the scale have high reliability and can depict the sample situation stably and consistently.

3.5.5.3 CFA of Confucian coping scale

Based on the theoretical structure of the scale and the results of EFA, the validity of the scale is further discussed by CFA, and M plus is used to establish a confirmatory factor analysis model of the scale. The fitting degree of the model is shown in Annex A Table a.20.

CFA model fitting index shows that RMSEA, SRMR, CFI and TLI all meet the fitting standard, and it is considered that the model can be supported by data, with good model structure and good validity of discrimination between dimensions. The results of CFA analysis are shown in Annex A Table a.21. The analysis results show that, firstly, the normalized path coefficients (i.e., factor loads) are all > 0.5, indicating that the factor loads are all large; Secondly, the Average Variance Extracted (AVE) of each variable is greater than 0.50, which indicates that the latent variables in this study have good convergence validity. The Composite Reliability (CR) of each variable is higher than 0.70, so the latent variables in this study have good composite reliability. Therefore, from the perspective of CFA, it is considered that coping approaches based on confounding scale has good validity.

3.6 Discriminant validity of the dimensional variables

By calculating the AVE root of each dimension variable, the discriminant validity of each dimension variable is verified. The correlation coefficient of the dimension variable in this study is shown in Table a.22, and the value on the diagonal represents the AVE root of this variable. According to Fornell-Larcker criterion, the AVE root of each variable is larger than its correlation coefficient with other variables, which indicates that the discriminant validity of this variable is good, so it is considered that the discriminant validity of each dimension is good (Bagozzi, 1981; Henseler et al., 2015).

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Chapter 4: Data Analysis and Hypotheses Test

Two independent sample T-test is used to analyze the variations of the average levels of variables between different sex, and among employment types, educational background and job positions, and one-way ANOVA is used to analyze the variations of the average levels of variables among different ages, professional titles, working tenures, working hours and weekly night shifts. The latent variable structural equation model (SEM) is established by Mplus8.3. Firstly, it discusses the influence of job resources and job demands on job engagement and job burnout of medical staff, and further discusses the influence of each dimension of job resources on job engagement and job burnout, as well as that of each dimension of job demands on the two. The second is to explore the mediating role of job engagement among job demands, job resources and job burnout. Thirdly, through Mplus8.3, a latent variable adjustment model is established to explore the adjustment function of coping approaches based on Confucian thoughts. When the Significant level is 0.05 ($p<0.05$), the difference is statistically significant.

4.1 Difference analysis

4.1.1 Difference analysis of sex

Two independent sample T-test is used to test the differences of the average levels of variables between different sex. The results are shown in Annex A Table a.23, and the analysis results are reflected in the following three aspects:

(1) Job resources and job demands: There are significant differences in job resources between different sex ($p=0.015<0.05$), and the degree of job resources perceived by males is stronger; Same as the person-job fit in job resources ($p=0.005<0.05$) and employees' perception of organizational status ($p=0.015<0.05$), the above perceptions of male employees are significantly higher than those of female employees. There is no significant difference in job demands between different sex ($p=0.622>0.05$).

(2) Job engagement and job burnout: There are significant differences in job engagement between different sex ($p<0.001$), and the degree of male job engagement is stronger; There are significant differences in job burnout among different sex ($p=0.017<0.05$), and the degree of

job burnout among women is stronger.

(3) There are significant differences in Confucian coping thoughts between different sex ($p=0.003<0.05$), and the males are stronger in cultivating Confucian coping.

4.1.2 Difference analysis of employment types

Two independent sample T-test is used to test the difference of the average level of each variable among different employment types. The results are shown in Annex A Table a.24, and the analysis results are reflected in the following three aspects:

(1) Job resources and job demands: There are significant differences in job resources among different types of employment ($p<0.001$), and formal employees have a stronger perception; In terms of person-job fit in job resources ($p=0.002<0.05$), interpersonal relationship ($p<0.001$) and organizational justice ($p=0.010<0.05$), the perception of formal employees is significantly higher than that of contract employees (non-intra-system). There is no significant difference in job demands among different types of employment ($p=0.586>0.05$).

(2) Job engagement and job burnout: There are significant differences in job engagement among different types of employment ($p=0.003<0.05$), and formal employees are more engaged; There are significant differences in job burnout among different employment types ($p=0.006<0.05$), and the degree of job burnout of contract employees is stronger.

(3) There is no significant difference in Confucian coping among different types of employment. The regular employees are stronger than the contract employees in cultivating Confucian coping.

4.1.3 Difference analysis of education background

There are two groups divided, bachelor's degree and below and master's degree and above. Two independent sample T-test is used to test the differences of the average levels of various variables between the two groups. The results are shown in Annex A Table a.25. The analysis results show that there is a significant difference in research pressure between the two ($p=0.048<0.05$), and the medical staff with master's degree and above are more stressed in research. There are significant differences in job engagement as well ($p=0.004<0.05$), and the degree of job engagement of medical staff with bachelor's degree or below is stronger; the *p value*s of other variables are all greater than 0.05, which indicates that there is no significant difference among other variables.

4.1.4 Difference analysis of job positions

As doctors and nurses are the main components of medical staff, this research focuses on the difference of average levels of variables between doctors and nurses by using two independent sample T-test. The results are shown in Annex A Table a.26. The analysis results show that:

(1) In terms of job resources and job demands, there is a significant difference between doctors and nurses ($p=0.047<0.05$), and the doctors are stronger in person-job fit. There is a significant difference in interpersonal relationship between doctors and nurses ($p=0.038<0.05$), and the degree of interpersonal relationship among doctors is stronger. There is a significant difference in workplace violence between doctors and nurses ($p=0.049<0.05$), and nurses have a stronger degree of workplace violence. The p values of other job resources and job demands variables are all greater than 0.05, indicating that there is no significant difference between doctors and nurses in other job resources and job demands.

(2) Job engagement and job burnout: There are significant differences between doctors and nurses ($p=0.014<0.05$), and the degree of job burnout of nurses is stronger; There is no significant difference in job engagement between doctors and nurses ($p=0.063>0.05$).

(3) There is no significant difference between doctors and nurses in using Confucian coping ($p=0.771>0.05$).

4.1.5 Difference analysis of age

In this research, one-way ANOVA is used to test the difference of the average level of each variable among different ages. The results are shown in Annex A Table a.27. The analysis results show that:

(1) Job resources and job demands: There are significant differences in job resources among different ages ($p=0.007<0.05$), and the level of job resources of those who are under 30 years old is lower; Perceived job opportunities in job resources ($p=0.013<0.05$), person-job fit ($p=0.005<0.05$), interpersonal relationship ($p<0.001$) and organizational justice ($p=0.007<0.05$), the perception of medical staff under 30 years old is significantly lower than that of other age groups. There is no significant difference in job demands among different age groups ($p=0.063>0.05$); There are significant differences in workplace violence among different ages ($p=0.020<0.05$), and medical staff under the age of 30 have a higher degree of perceived workplace violence.

(2) Job engagement and job burnout: There are significant differences in job engagement

among different ages ($p<0.001$), and the degree of job engagement under 30 years old is lower; There are significant differences in job burnout among different ages ($p=0.015<0.05$), and the degree of job burnout under 30 years old is higher.

(3) There are significant differences in Confucian coping among different ages ($p=0.030<0.05$), and medical staff over 51 years old have a higher level of Confucian coping.

4.1.6 Difference analysis of working tenures

In this research, one-way ANOVA is used to test the difference of the average level of each variable in different working years, and the results are shown in Annex A Table a.28. The analysis results show that:

(1) In terms of job resources and job demands, there is a significant difference in overall job resources among medical staff with different working tenures ($p<0.001$). The longer the working tenures, the more perceived job resources medical staff have. The perceived job resources of medical staff who have worked in the investigated unit for more than 16 years are significantly higher than those of other working tenures. Perception of career development opportunities in working resources ($p=0.011<0.05$), person-job fit ($p=0.034<0.05$), interpersonal relationship ($p<0.001$) and organizational justice ($p=0.003<0.05$), the perception of medical staff who have worked for more than 16 years is significantly higher than that of other working age groups. There are significant differences in overall job demands among medical staff with different working tenures ($p=0.000<0.001$). The perceived job demands of medical staff with 5-9 years of working tenures are significantly higher than those of other working tenures. Work-family conflict ($p=0.001<0.05$), research pressure ($p=0.043<0.05$), perceived public disunity ($p=0.004<0.05$), workplace violence $p=0.001<0.05$), the four above aspects in job demands witnessed higher score among employees with work tenures of 5-9 years than others.

(2) Job engagement and job burnout: There are significant differences in job engagement among different working tenures ($p<0.001$). The level of job engagement of medical staff with working tenures of 5-9 years is the lowest, and that of medical staff with working tenures of more than 16 years is the highest. There are significant differences in job burnout among different working tenures ($p=0.001<0.05$). The level of job burnout of medical staff with 5-9 working tenures is the highest, and that of medical staff with more than 16 working years is the lowest.

(3) There are significant differences in Confucian coping among different working tenures ($p = 0.006 < 0.001$), and medical staff with working tenures of more than 16 years have

stronger awareness of Confucian coping.

4.1.7 Difference analysis of professional title

In this research, one-way ANOVA is used to test the difference of the average level of each variable among different professional titles, and the results are shown in Annex A Table a.29. The analysis results show that:

(1) Job resources and job demands: There are significant differences in job resources among different professional titles ($p<0.001$), and medical staff with senior professional titles have higher perceived job resources; Perceived job opportunities in job resources ($p=0.014<0.05$), person-job fit ($p=0.001<0.05$), employees' perception of organizational status ($p=0.024<0.05$), interpersonal relationships ($p<0.001$), and organizational justice ($p=0.006<0.05$) There are significant differences in workplace violence among different professional titles ($p<0.001$), and medical staff without professional titles perceive workplace violence more strongly.

(2) Job engagement and job burnout: There are significant differences in job engagement among different professional titles ($p<0.001$), and the degree of job engagement of medical staff without professional titles is lower; There are significant differences in job burnout among different professional titles ($p=0.001<0.05$), and the degree of job burnout of medical staff without professional titles is higher.

(3) There are significant differences in Confucian coping among different professional titles ($p=0.027<0.001$), and the medical staff with senior professional titles have stronger sense of adopting Confucian coping.

4.1.8 Difference analysis of working hours

In this research, one-way ANOVA is used to test the difference of the average level of each variable in different working hours, and the results are shown in Annex A Table a.30. The analysis results show that:

(1) Job resources and job demands: there are significant differences in job resources in different working hours ($p=0.046<0.05$), and the degree of job resources of medical staff who work for 40 hours is higher; In terms of interpersonal relationship ($P=0.036<0.05$) and organizational justice ($p=0.043<0.05$) in working resources, the medical staff who work for 40 hours felt more strongly than other groups. There are significant differences in job demands in different working hours ($p<0.001$), and the degree of job demands of medical staff

working over 60 hours is higher; Work load ($p<0.001$), work-family conflict ($p<0.001$), pressure of scientific research ($p=0.018<0.05$), perceived public disunity ($p=0.041<0.05$) and workplace violence ($p=0.033<0.05$) are five aspects in the job demands.

(2) Job engagement and job burnout: There are significant differences in job engagement in different working hours ($p=0.018<0.05$), and the degree of job engagement in medical staff with 40 working hours is higher; There are significant differences in job burnout in different working hours ($p<0.001$), and the degree of job burnout is higher in those who work more than 60 hours.

(3) There are significant differences in Confucian coping thoughts in different working hours ($p =0.005<0.05$), and the degree of Confucian coping thoughts in 40 hours is higher.

4.1.9 Difference analysis of weekly night shifts

In this research, one-way ANOVA is used to test the difference of the average level of each variable among groups of different night shifts. The results are shown in Annex A Table a.31. The analysis results show that:

(1) Job resources and job demands: There is a significant difference in the number of night shifts per week ($p<0.001$), and the medical staff who have three night shifts or more per week perceive a lower degree of job resources; Perceiving career opportunities in job resources ($p<0.001$), person-job fit ($p=0.039<0.05$), employees' perception of organizational status ($p < 0.001$), interpersonal relationship ($p=0.001<0.05$), organizational justice ($p=0.007<0.05$), and There is a significant difference in the number of night shifts in job demands ($p<0.001$), and the medical staff who have three night shifts or more per week have higher perceived job demands. In terms of work load ($p=0.021<0.05$), work-family conflict ($p<0.001$), scientific research pressure ($p=0.011<0.05$) and workplace violence ($p<0.001$), the perception of medical staff who work for night shifts three times a week or more is significantly higher than that of other groups.

(2) Job engagement and job burnout: There is a significant difference in job engagement in the number of night shifts ($p<0.001$), and the degree of job engagement of medical staff with three or more weekly night shifts is lower; There is a significant difference in job burnout in the number of night shifts ($p<0.001$), and the degree of job burnout of medical staff who work night shifts three times or more per week is higher. p of other variables are all greater than 0.05, which indicates that there is no significant difference among other variables in different night shifts.

4.2 Correlation analysis of variables

In order to conduct the preliminary analysis of the correlation between variables, we used the Pearson correlation analysis method to do the correlation analysis between five core variables (job resources, job demands, job engagement, job burnout and Confucian coping) (showed in Table 4.1 below) (hereinafter Confucian coping is abbreviated as CC in tables). For the correlation between job resources (JR) and job demands (JD), ($p \leq 0.01$, Pearson correlation coefficient=-0.434), the difference is statistically significant, and it is considered that there is a significant negative correlation between them. Then for the correlation between job resources (JR) and job engagement (JE), ($p \leq 0.01$, Pearson correlation coefficient=0.543), the difference is statistically significant, and it is considered that there is a significant positive correlation between the two. For the correlation between job resources (JR) and job burnout (JB), ($p \leq 0.01$, Pearson correlation coefficient=-0.603), the difference is statistically significant. It is considered that there is a significant negative correlation between the two. And for the correlation between job demand (JD) and job engagement (JE), ($p \leq 0.01$, Pearson correlation coefficient = -0.553), the difference is statistically significant. It is considered that there is a significant negative correlation between the two. As for the correlation between job demands (JD) and job burnout (JB), ($p \leq 0.01$, Pearson correlation coefficient=0.596), the difference is statistically significant. It is considered that there is a significant positive correlation between the two. Finally, for the correlation between job engagement (JE) and job burnout (JB) is ($p \leq 0.01$, Pearson correlation coefficient=-0.573), and the difference is statistically significant. It is considered that there is a significant negative correlation between the two. The correlation of variables aligns with the expected hypotheses.

Table 4.1 Correlation analysis of core variables

	JR	JD	CC	JE	JB
JR	1				
JD	-.434**	1			
CC	.495**	-.417**	1		
JE	.543**	-.553**	.457**	1	
JB	-.603**	.596**	-.473**	-.573**	1

Note: * $p < 0.05$, ** $p < 0.01$

4.3 Hypotheses Test

The latent variable SEM is established by Mplus8.3. Firstly, it discusses the influence of job resources and job demands on job burnout and job burnout of medical staff, and further explores the influence of each dimension of job resources on job burnout and job burnout, and

the influence of each dimension of job demands on job burnout and job burnout. The second is to explore the mediating role of job engagement among job demands, job resources and job burnout. Thirdly, through M plus 8.3, a latent variable adjustment model is established to explore the adjustment function of Confucian coping thoughts. The Significant level was 0.05 ($p < 0.05$), and the difference was statistically significant.

4.3.1 Relationship model among job resources, job demands, job engagement and job burnout

The SEM of latent variables is established by M plus8.3, with job resources and job demands as independent variables and job engagement and job burnout as final variables. Furthermore, the Bootstrap method is used to iterate 5000 times to estimate the effect quantity. The fitting indexes of SEMs are shown in Table 4.2. The fitting indexes of latent variable SEMs all meet the fitting standards. It is considered that the SEMs can be supported by data and have a good structure. The results of latent SEM analysis show that for the measurement model, the standardization coefficient (factor load) of the measurement model is all greater than 0.5, and the factor load of the measurement model is higher, which indicates that the measurement model has a good structure.

Table 4.2 Model fit of SEM

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	379.411	164	2.313	0.028	0.019	0.985	0.983
Criteria			<5	<0.08	<0.08	>0.9	>0.9

The results of the SEM are shown in Table 4.3 and Figure 4.1. Job demands have a significant positive impact on job burnout ($p<0.001$, standardization coefficient=0.395), hypothesis H1 is supported; Job demands have a significant negative impact on job engagement ($p<0.001$, standardization coefficient=-0.476), hypothesis H2 is supported; job resources have a significant positive impact on work engagement ($p<0.001$, standardization coefficient =0.412), hypothesis H3 is true; job resources have a significant negative impact on job burnout ($p<0.001$, standardization coefficient =-0.388), hypothesis H4 is supported; job engagement has a significant negative impact on job burnout ($p=0.012$, standardized coefficient =-0.145), hypothesis H5 is true.

Table 4.3 SEM analysis results of the relationship model among job resources, job demands, job engagement and job burnout

	Road		Standard	Unstandard	S.E.	t	p
JB	←	JD	0.395	0.721	0.077	9.360	0.000
JE	←	JD	-0.476	-0.751	0.062	-12.103	0.000
JE	←	JR	0.412	0.578	0.055	10.441	0.000
JB	←	JR	-0.388	-0.630	0.077	-8.165	0.000
JB	←	JE	-0.145	-0.167	0.066	-2.527	0.012
PCO	←	JR	0.638	1.000			
PJF	←	JR	0.736	1.048	0.044	23.751	0.000
PCS	←	JR	0.704	1.129	0.054	20.834	0.000
IR	←	JR	0.726	1.045	0.047	22.114	0.000
OJ	←	JR	0.706	1.246	0.060	20.881	0.000
WO	←	JD	0.585	1.000			
WHC	←	JD	0.732	1.663	0.077	21.655	0.000
RS	←	JD	0.647	1.499	0.070	21.330	0.000
PPD	←	JD	0.647	1.041	0.062	16.888	0.000
WV	←	JD	0.659	1.034	0.057	18.191	0.000
VIG	←	JE	0.755	1.000			
DED	←	JE	0.755	0.959	0.032	30.163	0.000
ABS	←	JE	0.718	1.007	0.035	28.559	0.000
JB1	←	JB	0.729	1.000			
JB2	←	JB	0.773	1.050	0.031	34.211	0.000
JB3	←	JB	0.690	0.895	0.033	27.202	0.000
JB4	←	JB	0.703	0.983	0.032	30.628	0.000
JB5	←	JB	0.816	1.165	0.034	34.491	0.000
JB6	←	JB	0.753	1.000	0.035	28.588	0.000
JB7	←	JB	0.716	1.017	0.035	28.751	0.000
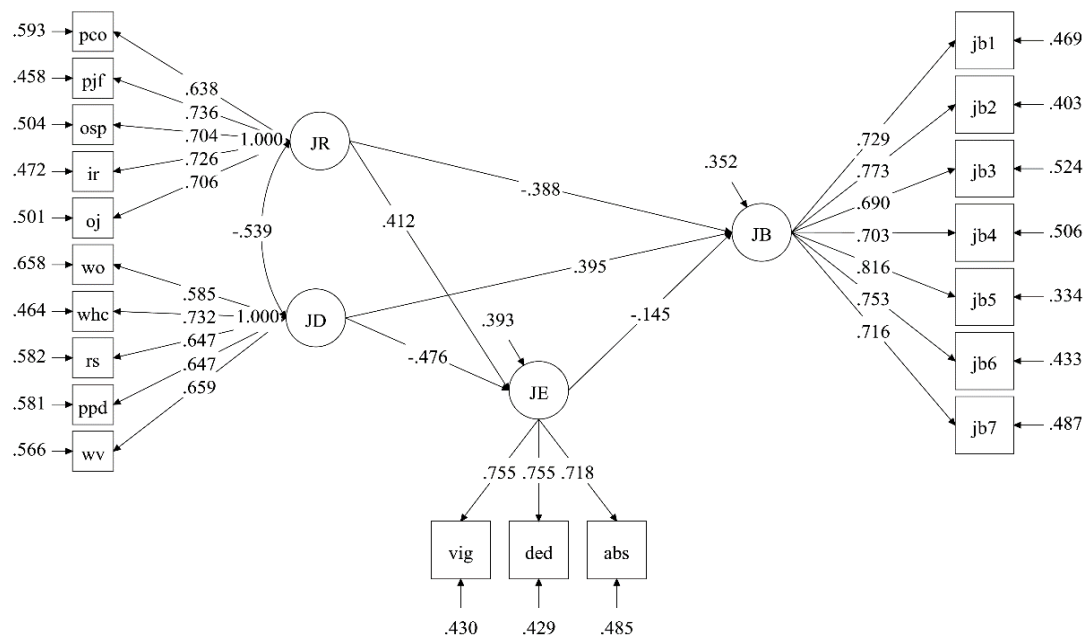
Figure 4.1 SEM results of the relationship model among job resources, job demands, job engagement and job burnout

Further, the Bootstrap method is used to test the mediating role of job engagement between job resources and job burnout and the mediating role of job engagement between job demands and job burnout through 5,000 iterations. The analysis results are shown in Table 4.4.

As for the mediating effect of job engagement between job demands and job burnout, 95% confidence interval [0.018, 0.129] does not contain 0, which indicates that job engagement has a significant mediating effect between job demands and job burnout, and the standardized mediating effect is 0.069, hypothesis H6 is supported.

As for the mediating effect of job engagement between job resources and job burnout, the 95% confidence interval [-0.111, -0.017] does not contain 0, which indicates that job engagement has a significant mediating effect between job resources and job burnout, and the standardized mediating effect is -0.060, hypothesis H7 is supported.

Table 4.4 Mediating effect of job engagement

		Std.Estimate	S.E.	95%LCI	95%UCI
JD→JB	Total Effect	0.464	0.032	0.404	0.527
	Direct Effect	0.395	0.039	0.318	0.472
	Indirect Effect	0.069	0.028	0.018	0.129
JR→JB	Total Effect	-0.448	0.033	-0.510	-0.382
	Direct Effect	-0.388	0.043	-0.469	-0.301
	Indirect Effect	-0.060	0.024	-0.111	-0.017

4.3.2 The influence of job demands on job burnout and job engagement

This research discusses the influence of various dimensions of job demands (workload, work-family conflict, research pressure, perceived public disunity, workplace violence) on job engagement and job burnout. The researcher establishes a SEM of latent variables through Mplus8.3, and takes workload, work-family conflict, research pressure, perceived public disunity and workplace violence as independent variables, and job engagement and job burnout as final variables. Furthermore, the Bootstrap method is used to iterate 5000 times to estimate the effect quantity. The fitting indexes of SEMs are shown in Table 4.5, and the fitting indexes of latent variable SEMs all meet the fitting standards. It is considered that SEMs can be supported by data and have a good structure. The results of latent SEM analysis show that for the measurement model, the standardization coefficient (factor load) of the measurement model is greater than 0.5, and the factor load of the measurement model is higher, which indicates that the measurement model has a good structure.

Table 4.5 Model fit of SEM

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	1379.798	329	4.194	0.044	0.026	0.964	0.959
Criteria			<5	<0.08	<0.08	>0.9	>0.9

The results of SEM are shown in Table 4.6 and Figure 4.2:

Table 4.6 SEM analysis results of the influence of job demands on job burnout and job engagement

	Road		Standard	Unstandard	S.E.	t	*p*
JE	←	WO	-0.139	-0.175	0.046	-3.831	0.000
JE	←	WHC	-0.172	-0.128	0.033	-3.906	0.000
JE	←	RS	-0.181	-0.131	0.025	-5.190	0.000
JE	←	PPD	-0.210	-0.206	0.045	-4.598	0.000
JE	←	WV	-0.124	-0.135	0.042	-3.187	0.001
JB	←	WO	0.110	0.160	0.047	3.386	0.001
JB	←	WHC	0.081	0.071	0.034	2.069	0.039
JB	←	RS	0.069	0.058	0.025	2.308	0.021
JB	←	PPD	0.104	0.118	0.047	2.509	0.012
JB	←	WV	0.103	0.130	0.044	2.971	0.003
JB	←	JE	-0.452	-0.526	0.053	-9.916	0.000
WO1	←	WO	0.697	1.000			
WO2	←	WO	0.860	1.370	0.065	21.193	0.000
WO3	←	WO	0.806	1.374	0.068	20.235	0.000
WHC1	←	WHC	0.820	1.000			
WHC2	←	WHC	0.834	1.018	0.025	40.291	0.000
WHC3	←	WHC	0.807	0.990	0.028	35.448	0.000
RS1	←	RS	0.845	1.000			
RS2	←	RS	0.883	1.049	0.023	46.220	0.000
RS3	←	RS	0.773	0.944	0.026	35.862	0.000
PPD1	←	PPD	0.838	1.000			
PPD2	←	PPD	0.780	0.784	0.036	21.831	0.000
WV1	←	WV	0.721	1.000			
WV2	←	WV	0.864	1.063	0.032	33.734	0.000
WV3	←	WV	0.805	0.928	0.040	22.995	0.000
WV4	←	WV	0.896	1.145	0.026	43.976	0.000
WV5	←	WV	0.841	1.096	0.021	51.285	0.000
WV6	←	WV	0.883	1.100	0.026	41.666	0.000
WV7	←	WV	0.879	1.048	0.033	31.399	0.000
VIG	←	JE	0.752	1.000			
DED	←	JE	0.760	0.968	0.033	29.453	0.000
ABS	←	JE	0.716	1.008	0.036	27.826	0.000
JB1	←	JB	0.730	1.000			
JB2	←	JB	0.772	1.047	0.031	33.823	0.000
JB3	←	JB	0.689	0.892	0.033	26.992	0.000
JB4	←	JB	0.702	0.980	0.032	30.321	0.000
JB5	←	JB	0.819	1.167	0.034	34.645	0.000
JB6	←	JB	0.752	0.997	0.035	28.410	0.000
JB7	←	JB	0.717	1.015	0.036	28.561	0.000
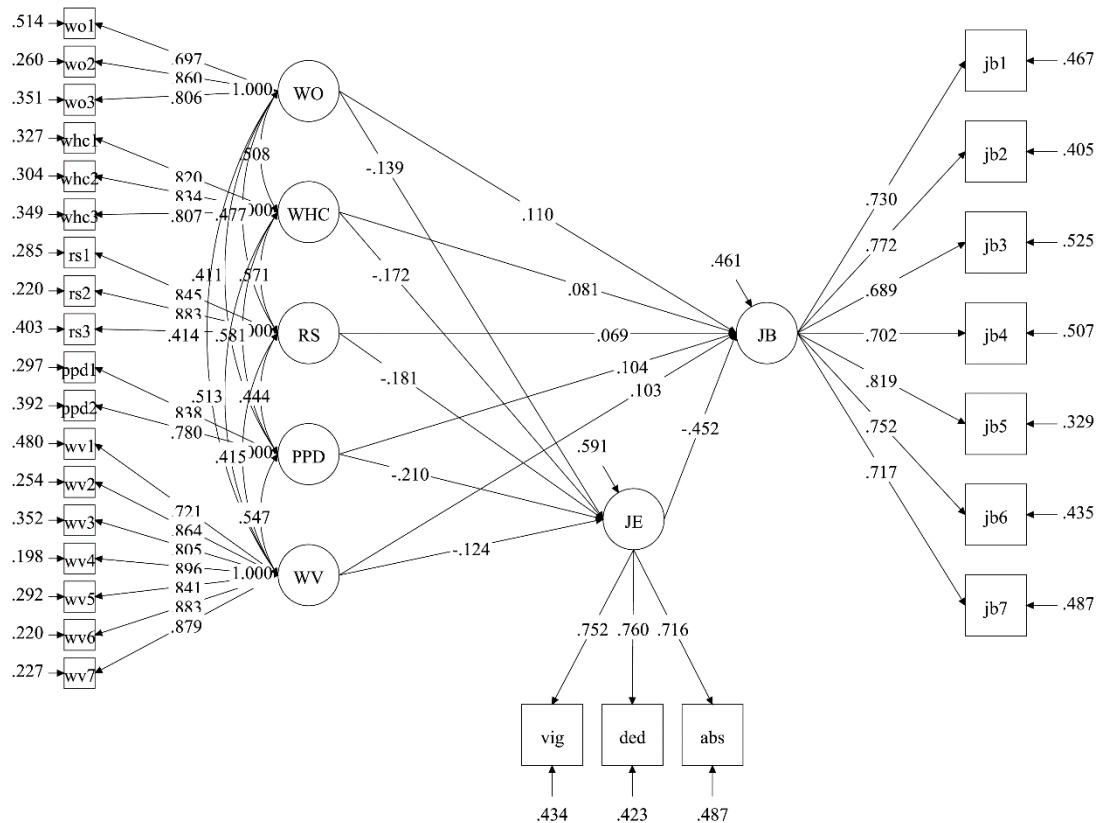
Figure 4.2 SEM analysis results of the influence of job demands on job burnout and job engagement

The results suggest the following two aspects:

(1) The influence of each dimension of job demands on job burnout: workload has a significant positive influence on job burnout (p=0.001, standardization coefficient=0.110), hypothesis H1a is supported; Work-family conflict has a significant positive impact on job burnout (p=0.039, standardized coefficient =0.081), hypothesis H1b is supported; Scientific research pressure has a significant positive impact on job burnout (p=0.021, standardization coefficient =0.069), hypothesis H1c is supported; Perceived public disunity has a significant positive impact on job burnout (p=0.012, standardization coefficient =0.104), hypothesis H1d is supported; Workplace violence has a significant positive impact on job burnout (p=0.003, standardized coefficient =0.103), hypothesis H1e is supported; Job engagement has a significant negative impact on job burnout (p<0.001, standardized coefficient=-0.452), hypothesis H5 is true.

(2) The influence of each dimension of job demands on job engagement: workload has a significant negative influence on job engagement (p<0.001, standardization coefficient =-0.139), hypothesis H2a is supported; Work-family conflict has a significant negative impact on job engagement (p<0.001, standardization coefficient =-0.172), hypothesis H2b is supported; Scientific research pressure has a significant negative impact on job engagement

($p<0.001$, standardization coefficient $=-0.181$), hypothesis H2c is supported; Perceived public disunity has a significant negative impact on job engagement ($p<0.001$, standardization coefficient $=-0.210$), hypothesis H2d is supported; Workplace violence has a significant negative impact on job engagement ($p=0.001$, standardization coefficient $=-0.124$), thus hypothesis H2e is supported true.

4.3.3 The influence of job resources on job burnout and job engagement

This research discusses the influence of various dimensions of job resources (perceived job opportunities, person-job fit, organizational status perception, interpersonal relationship, organizational justice) on job engagement and job burnout, and establishes a latent variable SEM through M plus8.3, and takes perceived career opportunities, person-job fit, organizational status perception, interpersonal relationship and organizational justice as independent variables, and job engagement and job burnout as final variables. Furthermore, through the Bootstrap method, with iteration for 5,000 times, the estimated effect quantity and the fitting index of the latent variable SEM all meet the fitting standard (see Table 4.7). It is considered that the SEM can be supported by data and has a good structure. The results of latent SEM analysis show that for the measurement model, the standardization coefficient (factor load) of the measurement model is all greater than 0.5, and the factor load of the measurement model is higher, which indicates that the measurement model has a good structure.

Table 4.7 Model fit of SEM

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	1027.674	278	3.697	0.040	0.028	0.966	0.960
Criteria			<5	<0.08	<0.08	>0.9	>0.9

The SEM results are shown in Table 4.8 and Figure 4.3:

Table 4.8 SEM analysis results of the influence of job resources on job burnout and job engagement

Road			Standard	Unstandard	S.E.	t	p
JE	←	PCO	0.168	0.183	0.049	3.761	0.000
JE	←	PJF	0.110	0.117	0.049	2.357	0.018
JE	←	OSP	0.226	0.246	0.082	2.997	0.003
JE	←	IR	0.110	0.123	0.059	2.100	0.036
JE	←	OJ	0.148	0.124	0.042	2.942	0.003
JB	←	PCO	-0.014	-0.018	0.047	-0.383	0.702
JB	←	PJF	-0.096	-0.118	0.052	-2.278	0.023
JB	←	OSP	-0.160	-0.200	0.083	-2.429	0.015
JB	←	IR	-0.095	-0.123	0.061	-2.023	0.043
JB	←	OJ	-0.089	-0.086	0.038	-2.248	0.025
JB	←	JE	-0.438	-0.506	0.057	-8.939	0.000
PCO1	←	PCO	0.729	1.000			
PCO2	←	PCO	0.834	1.159	0.049	23.801	0.000

	Road		Standard	Unstandard	S.E.	t	p
PCO3	←	PCO	0.808	1.176	0.046	25.460	0.000
PJF1	←	PJF	0.785	1.000			
PJF2	←	PJF	0.825	0.957	0.030	31.551	0.000
PJF3	←	PJF	0.767	1.058	0.041	25.538	0.000
PJF4	←	PJF	0.791	1.016	0.031	32.659	0.000
JA	←	OSP	0.747	1.000			
POS	←	OSP	0.672	1.029	0.040	25.975	0.000
IR1	←	IR	0.728	1.000			
IR2	←	IR	0.779	1.083	0.043	25.141	0.000
IR3	←	IR	0.761	1.034	0.048	21.666	0.000
IR4	←	IR	0.750	1.105	0.047	23.320	0.000
OJ1	←	OJ	0.766	1.000			
OJ2	←	OJ	0.859	1.018	0.036	28.157	0.000
OJ3	←	OJ	0.761	0.881	0.042	21.089	0.000
VIG	←	JE	0.753	1.000			
DED	←	JE	0.758	0.964	0.033	29.254	0.000
ABS	←	JE	0.717	1.008	0.036	27.792	0.000
JB1	←	JB	0.727	1.000			
JB2	←	JB	0.773	1.054	0.031	33.759	0.000
JB3	←	JB	0.691	0.899	0.033	27.018	0.000
JB4	←	JB	0.703	0.986	0.032	30.547	0.000
JB5	←	JB	0.816	1.167	0.035	33.734	0.000
JB6	←	JB	0.757	1.008	0.036	28.366	0.000
JB7	←	JB	0.713	1.015	0.036	28.048	0.000
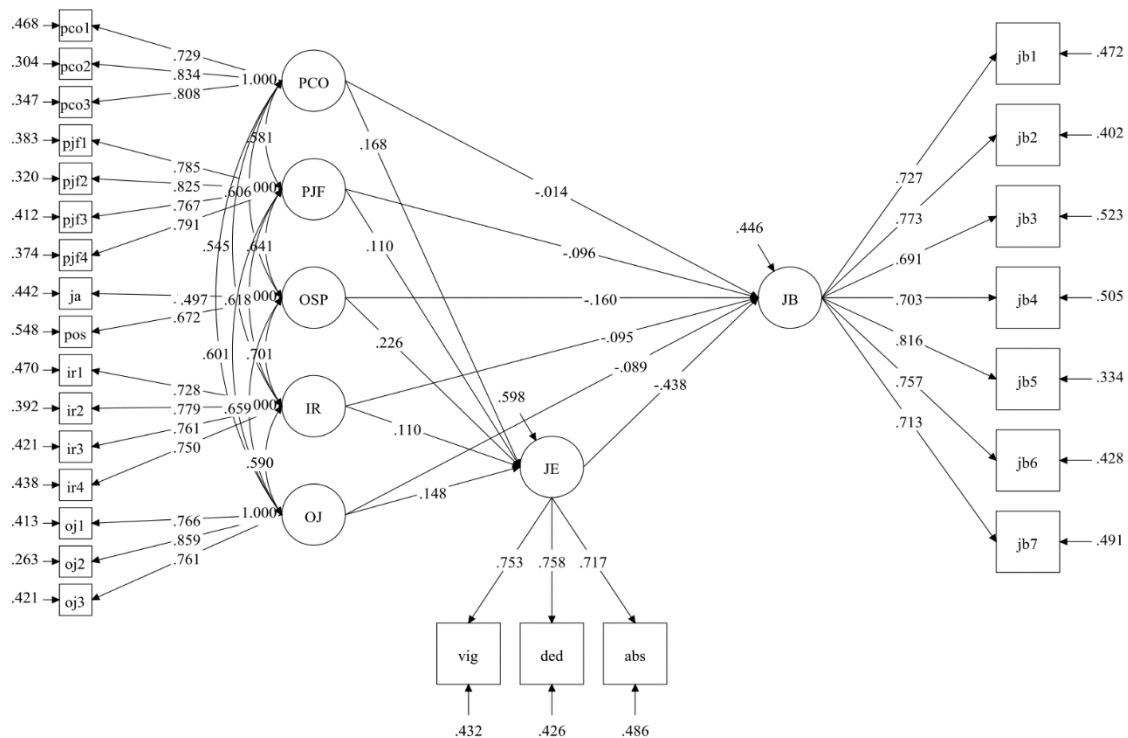
Figure 4.3 SEM analysis results of the influence of job resources on job burnout and job engagement

The results suggest the following two aspects:

(1) The influence of various dimensions of job resources on job engagement: perceived job opportunities have a significant positive impact on job engagement ($p<0.001$, standardization coefficient=0.168), hypothesis H3a is supported; Person-job fit has a significant positive impact on job engagement ($p = 0.018$, standardization coefficient = 0.110), hypothesis H3b is supported; Organizational status perception has a significant positive impact on job engagement ($p=0.003$, standardization coefficient =0.246), hypothesis H3c is supported; Interpersonal relationship has a significant positive impact on job engagement ($p=0.036$, standardization coefficient=0.110), hypothesis H3d is supported; Organizational justice has a significant positive impact on job engagement ($p=0.003$, standardization coefficient=0.148), hypothesis H3e is verified as true.

(2) The influence of each dimension of job resources on job burnout: perceived job opportunity has no influence on job burnout ($p>0.05$), hypothesis H4a is not valid; Job-person-job fit has a significant negative impact on job burnout ($p=0.023$, standardized coefficient=-0.096), hypothesis H4b is supported; Organizational status perception has a significant negative impact on job burnout ($p=0.015$, standardization coefficient=-0.160), hypothesis H4c is true; Interpersonal relationship has a significant negative impact on job burnout ($p=0.043$, standardized coefficient=-0.095), hypothesis H4d is supported; Organizational justice has a significant negative impact on job burnout ($p=0.025$, standardization coefficient=-0.089), hypothesis H4e is supported; Job engagement has a significant negative impact on job burnout ($p<0.001$, standardized coefficient=-0.438), hypothesis H5 is verified as true.

4.3.4 The moderating role of Confucian coping

In this research, M plus is used to establish a latent variable adjustment model, which included job resources and job demands as independent variables, Confucian coping as adjustment variables, and job engagement and job burnout as outcome variables. The analysis results are shown in Table 4.9 and Figure 4.4.

Table 4.9 The Moderating effect of Confucian coping on the relationship between job resources and job engagement, and between job demands and job burnout

	Road		Standard	Unstandard	S.E.	t	p
JE	←	JD	-0.440	-0.709	0.057	-12.454	0.000
JE	←	JR	0.356	0.508	0.051	9.996	0.000
JE	←	CC	0.130	0.126	0.032	3.886	0.000
JE	←	JR×CC	0.126	0.180	0.033	5.538	0.000

	Road		Standard	Unstandard	S.E.	t	p
JB	←	JD	0.360	0.657	0.067	9.762	0.000
JB	←	JR	-0.364	-0.588	0.057	-10.235	0.000
JB	←	CC	-0.064	-0.070	0.032	-2.158	0.031
JB	←	JD×CC	-0.079	-0.144	0.035	-4.109	0.000
JB	←	JE	-0.158	-0.179	0.046	-3.866	0.000
PCO	←	JR	0.641	1.000			
PJF	←	JR	0.737	1.047	0.043	24.276	0.000
PCS	←	JR	0.712	1.139	0.049	23.364	0.000
IR	←	JR	0.731	1.049	0.044	23.856	0.000
OJ	←	JR	0.712	1.253	0.054	23.291	0.000
WO	←	JD	0.585	1.000			
WHC	←	JD	0.738	1.679	0.079	21.353	0.000
RS	←	JD	0.651	1.511	0.076	19.948	0.000
PPD	←	JD	0.651	1.048	0.054	19.545	0.000
WV	←	JD	0.661	1.040	0.052	19.882	0.000
VIG	←	JE	0.765	1.000			
DED	←	JE	0.754	0.945	0.034	28.050	0.000
ABS	←	JE	0.724	1.003	0.038	26.732	0.000
JB1	←	JB	0.730	1.000			
JB2	←	JB	0.774	1.050	0.034	30.849	0.000
JB3	←	JB	0.691	0.895	0.033	27.279	0.000
JB4	←	JB	0.704	0.983	0.035	27.925	0.000
JB5	←	JB	0.817	1.164	0.036	32.411	0.000
JB6	←	JB	0.755	1.001	0.034	29.442	0.000
JB7	←	JB	0.718	1.016	0.036	28.229	0.000
VF	←	CC	-0.789	-1.000			
OA	←	CC	0.642	0.650	0.024	26.534	0.000
RH	←	CC	0.718	0.745	0.024	31.650	0.000
AIG	←	CC	0.733	0.809	0.025	32.859	0.000
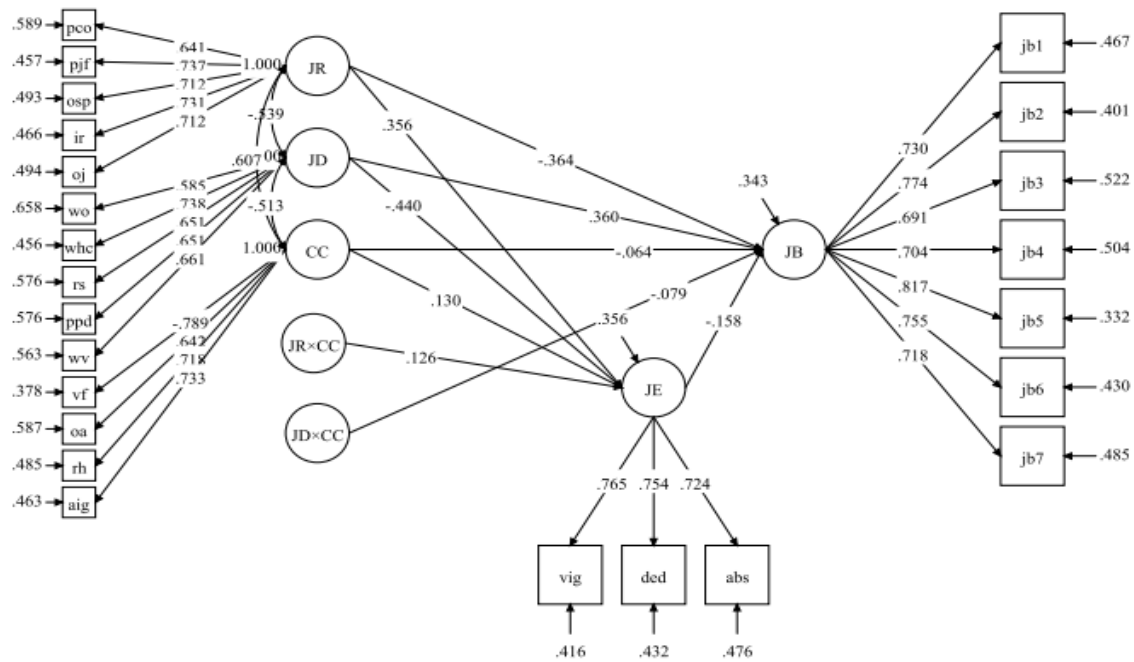
Figure 4.4 SEM analysis results of the moderating effect of Confucian coping on the relationship between job resources and job engagement, and between job demands and job burnout

4.3.4.1 The moderating role of Confucian coping on the relationship between job demands and job burnout

Job demands have a significant positive impact on job burnout ($p<0.001$, standardized coefficient = 0.360; For the main effect of moderating variables: Confucian coping has a significant negative impact on job burnout ($p<0.001$, standardization coefficient=-0.064); For the regulating effect; Interactive job demands × Confucian coping (JD×CC) has a significant negative impact on job burnout ($p<0.001$, standardization coefficient=-0.079), which indicates that Confucian coping thought has a significant negative moderating effect on job demands and job burnout, hypothesis H8a is supported;

Further, the moderating effect of Confucian coping on job demands and job burnout is discussed, and the moderating effect diagram (Figure 4.5) is made by using the regression coefficient. By comparing the slope of the influence of Confucian coping on job burnout, the results show that the slope of the influence of job demands on job burnout in the group of lower awareness of Confucian coping is higher than that in the higher group. It shows that with the increase of Confucian coping, the positive influence of job demands on job burnout gradually weakens, that is, Confucian coping plays a negative role in regulating job demands and job burnout.
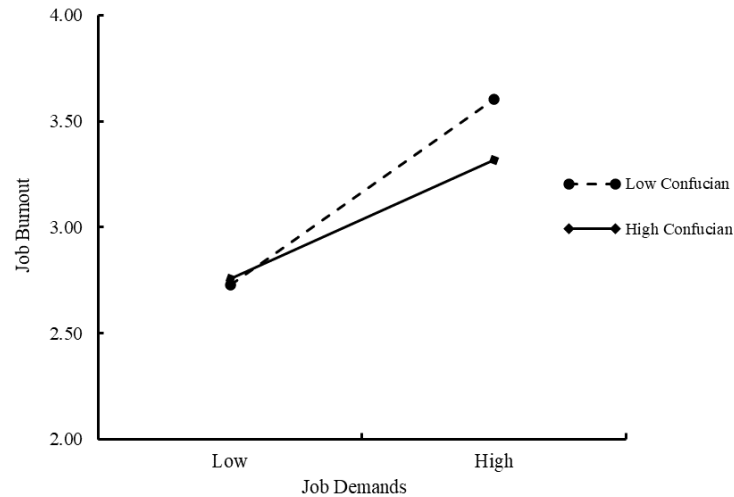
Figure 4.5 Diagram of the moderating effect of Confucian coping on the relationship between job demands and job burnout

4.3.4.2 The moderating role of Confucian coping on the relationship between job resources and job engagement

Job resources have a significant positive impact on job engagement ($p<0.001$, standardization coefficient = 0.356); For the main effect of moderating variables: Confucian coping has a significant positive impact on job engagement ($p<0.001$, standardization coefficient=0.130); For the regulating effect; Interactive job resources × Confucian coping (JR×CC) has a significant positive impact on job engagement ($p<0.001$, standardization coefficient=0.126), which indicates that Confucian coping has a significant positive regulating effect on job resources and job engagement, hypothesis H8b is supported;

Furthermore, this research discusses the adjustment effect of Confucian coping on job resources and job engagement, and makes the adjustment function diagram by using regression coefficient (Figure 4.6). By comparing the influence slope of Confucian coping on job engagement, the results show that the influence slope of adjusting job resources on job engagement in the group with lower awareness of Confucian coping is smaller than that in the higher group. It shows that with the increase of Confucian coping, the positive influence of job resources on job engagement is gradually enhanced, that is, Confucian coping plays a positive role in regulating work resources and job engagement.
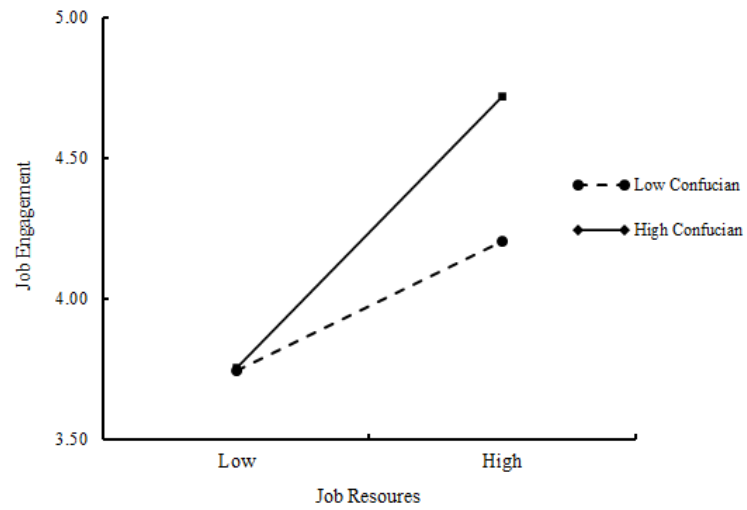
Figure 4.6 Diagram of the moderating effect of Confucian coping on the relationship between job resources and job engagement

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Chapter 5: Research Summary and Discussion

5.1 Conclusion and discussion of significant difference analysis

5.1.1 Main conclusions

Through difference analysis, this research found that:

(1) There are significant differences in perceived job resources among medical staff of different sex. Males are significantly higher than females in overall job resources, person-job fit and organizational position perception; There is no significant difference in perceived job demands among medical staff of different sex; Males' work dedication level is significantly higher than that of females'; The level of job burnout of males is significantly lower than that of females; Males' Confucian coping is significantly higher than females'.

(2) There are significant differences in perceived job resources among medical staff of different employment types, and the overall job resources, perceived career opportunities, person-job fit, interpersonal relationship and organizational justice of medical staff in the establishment are significantly higher than those of medical staff outside the establishment; There is no significant difference in perceived job demands among different types of medical staff employed; The professional level of medical staff in the establishment is significantly higher than that of medical staff outside the establishment. The level of job burnout of internal medical staff is significantly lower than that of external medical staff.

(3) There is no significant difference in perceived job resources and job demands among different groups of education background, and the influence of education on job burnout and job engagement is not significant. However, the pressure of scientific research perceived by medical staff with master's degree or above is significantly higher than that of medical staff with undergraduate degree or below.

(4) There are significant differences in perceived job resources and job demands among groups of different ages. Medical staff under 30 years old are significantly lower than other age groups in overall job resources, perceived career opportunities, person-job fit, interpersonal relationship and organizational justice; Medical staff under 30 years has hi old perceived workplace violence significantly higher than other age groups; The engagement level of medical staff under 30 years old is significantly lower than that of other groups; The

level of job burnout of medical staff under 30 years old is significantly higher than that of other groups; Coping thoughts of Confucianism become stronger with age. Coping thoughts of Confucianism in the age group over 51 are significantly higher than those in other age groups.

(5) There are significant differences in perceived job resources and job demands among groups with different tenures. The overall job resources, perceived job opportunities, person-job fit and interpersonal relationship of medical staff with 5-9 years of working tenures are significantly lower than those of other groups of working tenures; The overall job demands, work-family conflicts, research pressure, perceived public disunity and workplace violence of medical staff with 5-9 years of working experience are significantly higher than those of other working age groups; Medical staff with 5-9 years' working experience have significantly lower job engagement than other groups, and their job burnout is significantly higher than other groups.

(6) There are significant differences in perceived job resources among different groups of professional title. The overall job resources, perceived job opportunities, person-job fit, perceived organizational status, interpersonal relationship and organizational justice of medical staff without professional title are significantly lower than those of other groups; The perceived workplace violence of medical staff without professional title is significantly higher than that of other professional title groups; The level of job engagement of medical staff without professional titles is significantly lower than that of other groups, and the level of job burnout of medical staff without professional titles is significantly higher than that of other groups. The Confucian coping of medical staff without professional titles is significantly lower than that of other groups.

(7) There are significant differences in person-job fit, interpersonal relationship and workplace violence among different jobs, among which doctors' perceived person-job fit and interpersonal relationship are significantly higher than nurses'; Nurses perceived workplace violence significantly higher than doctors. There is no significant difference between the job dedication level of nurses and doctors, and the job burnout level of nurses is significantly higher than that of doctors.

(8) There are significant differences in perceived job resources and job demands among different working hours. Medical staff who work more than 60 hours per week are significantly lower than other groups in terms of overall job resources, interpersonal relationships and organizational justice. Medical staff who work more than 60 hours per week are significantly higher than other groups in terms of overall job demands, workload, work-

family conflicts, research pressure, perceived public disunity and workplace violence. The job engagement level of medical staff who work more than 60 hours per week is significantly lower than that of other groups, while the job burnout level is significantly higher than that of other groups. Medical staff who work more than 60 hours a week have significantly lower Confucian coping than other groups.

(9) The number of night shifts per week has significant differences in perceived job resources and job demands. The overall job resources, perceived career opportunities, person-job fit, perceived organizational status, interpersonal relationship and organizational justice of medical staff with more than three night shifts per week are significantly lower than those of other groups; The overall job demands, workload, work-family conflict, research pressure and workplace violence of medical staff with more than three night shifts per week were significantly higher than those of other groups. The level of job engagement of medical staff with more than three night shifts per week is significantly lower than that of other groups, and the level of job burnout of medical staff with more than three night shifts per week is significantly higher than that of other groups.

5.1.2 Discussion on conclusions of significant difference analysis

5.1.2.1 On difference due to sex

This research shows that female medical staff's perceived job resources are significantly lower than those of males', especially in terms of person-job fit and organizational status perception, but there is no significant difference in perceived job demands between females and males. At the same time, the job burnout of female medical staff is significantly higher than that of males, which echoes with research done by West et al. (2018), female medical staff's job dedication is significantly lower than that of males'. The researcher believes that the reasons for such difference are as follows:

First of all, sex occupational segmentation: there is a certain gender occupational segmentation in China's urban labor market (Li, 2008). The occupational inequality is the concentrated expression of the traditional gender inequality between males and females in the labor market, and its root cause comes from social gender discrimination. Crowding theory explains that social occupational exclusion and discrimination against females are one of the important reasons that lead to wage differences between males and females, even resource differences (Becker, 1971). The low level of human capital when entering the labor market and less accumulation after entering make it difficult for females to have the same career and

market opportunities as males (Li, 2008). Career segmentation also affects the promotion opportunities of males and females, and female managers face the "glass ceiling" obstacle in the process of career promotion. Bon (2008) found that the upward mobility of females decreased by 23.6% compared with that of males. The research done by Westover et al. (2012) also shows that females' average scores in perceived salary and promotion opportunities are significantly lower than those of males, and females' perceived workload is higher. From the results of this research, we can also see that female medical staff have no significant difference in perceived job demands with males, and face the same workplace pressure, but their perceived job resources are significantly lower than those of males. This internal gender segregation caused by gender finally limits the personal career development of female medical staff, and further leads to low engagement and high burnout rate.

Secondly, females' lack of political and social resources: the proportion of males in total number of leaders in the middle and high decision-making levels in today's workplace is still higher, and females' awareness of political participation is obviously lower than that of males, which leads to the slow growth or stagnation of females' ability to obtain political or social resources (Liu, 2021). The gender imbalance in power allocation and political participation has further deepened the lack of females' political and social resources. This will gradually lead to the polarization of female medical staff. One is to take leadership positions by virtue of personal knowledge and skills, higher education and access to better resources; The other kind, because they can't bear the pressure and predicament brought by the working environment, choose to return to the family or take the family as the center, their posts stagnate at a lower level, and correspondingly get less resources.

Third, the society's expectation of females' role: Chinese traditional culture emphasizes females' "three obedience and four virtues", that is, "three obedience" means that females should be obedient to their fathers, husbands, and their sons; "Four virtues" refer to females' virtue, females' words, females' appearance and females' merits. Influenced by traditional culture, the society's judgment of males' value is based on career, while the measurement standard of females is more focused on family, emphasizing that "men are dominant outside, females are dominant inside", which leads to females' relatively low self-expectation and weak competition in career development.

5.1.2.2 On difference due to way of employing

This research shows that the perceived job resources of medical staff who have contract are significantly lower than those of formal medical staff, especially in terms of perceived job

opportunities, person-job fit, interpersonal relationships and organizational justice, but there is no significant difference between contract-medical staff and formal medical staff in terms of perceived job demands. At the same time, the job burnout level of contract medical staff is significantly higher than that of formal medical staff, but the job engagement is significantly lower than that of formal medical staff. The results of this research are consistent with the domestic related research results (Ji, 2013; Yao & Tang, 2016). The author believes that the reasons for this difference are as follows:

First of all, the researcher will briefly introduce the concept and background of contract personnel. Contract system (i.e., non-intra-system employment) is a unique phenomenon in China's government personnel system. It mainly refers to the fact that under the modern staffing management system, government agencies and institutions at all levels have continuously broken through the relevant regulations of staffing management for a long time and employed personnel beyond the staffing quota. Those who are not included in the staffing are usually called non-intra-system personnel (contract personnel). As the main body of public service, public hospitals are expanding in scale, beds and scientific research and teaching tasks with the increasing demand for medical services. However, correspondingly, the government's approved standards for the staffing of medical institutions still remain in the old enterprise staffing management, which can no longer meet the needs of the current hospital development. In order to make up for the shortage of all kinds of personnel and alleviate the shortage of human resources, public hospitals have to employ a large number of non-intra-system personnel.

Secondly, the theory of organizational justice emphasizes the equivalence of individual input and results. Organizational justice is divided into distributive justice, procedural justice and interactive justice. However, contract staff are faced with the realistic dilemma of limited promotion space, unequal salary and welfare and inadequate vocational training (Meng, 2021), When compared with regular employees, there will be a strong sense of injustice, thus reducing work enthusiasm and efficiency.

Third, the incentive method for contract staff is relatively simple. Due to the mobility of contract staff, taking into account the cost of staff training, employers will try their best to reduce the training of contract staff, and unconsciously regard material incentives as the only way to motivate them (Lin, 2020). However, as a "health factor" in the "two-factor theory", material incentives have little effect on arousing employees' enthusiasm. More and more contract workers are not satisfied with material incentives such as salary, but pay more attention to "incentives" such as job achievement, sense of identity and career development

opportunities. The gap between expectations and reality leads to contract workers' slackness and low sense of responsibility.

5.1.2.3 On difference due to education background

The results show that academic qualifications have little influence on job resources, job demands, job burnout and job engagement, which is mainly reflected in the fact that medical staff with master's degree or above have a higher level of research pressure than those with lower academic qualifications. The main reasons may be as follows:

First, it comes from external pressure. Human resources are the core resources of organizational development, and the development of hospitals is inseparable from high-level professional and technical talents. In order to attract talents, more and more hospitals have formulated a series of talent introduction policies to attract talents for employment by providing housing subsidies, research funds and other resources. At the same time, however, there will be corresponding high demands and high assessment, urging high-level talents to produce results, and the pressure of scientific research will increase accordingly.

Second, the pressure from oneself, because medical staff with high education usually have higher expectations for their own career development and set higher standards and goals for themselves. Medical staff with high education will feel greater work pressure, which is related to Jiang's research (2018).

Third, high education usually means high scientific research ability. According to the resource conservation theory, in order to keep this academic advantage, highly educated medical staff will make more efforts to obtain scientific research results and further promote to a higher professional title, so as to keep the advantages brought by high education and high professional title.

5.1.2.4 On difference due to age

The results show that there are significant differences in perceived job resources and job demands among different age groups. Medical staff under 30 years old are significantly lower than other age groups in overall job resources, perceived job opportunities, person-job fit, interpersonal relationship and organizational justice. Medical staff under 30 years old perceived workplace violence significantly higher than other age groups; The engagement level of medical staff under 30 years old is significantly lower than that of other groups; The level of job burnout of medical staff under 30 years old is significantly higher than that of other groups; Coping thoughts of Confucianism become stronger with age. Coping thoughts of Confucianism in the age group over 51 are significantly higher than those in other age

groups.

Since the outbreak of COVID-19, frontline medical staff has been the core of Covid-19 pandemic, and working in the pandemic may have a significant impact on junior doctors, especially hinder their career development (Johnston et al., 2021). COVID-19 pandemic resulted in the cancellation of some elective surgery and non-essential procedures, and reduced opportunities for attending academic conferences or going out for further research, which further reduced the experience necessary for young doctors' career development and their perceived career opportunities. At the same time, the standardized training system for residents requires doctors to continue to participate in standardized training for residents for three years after graduation, so as to further improve their clinical ability through rotation. In this research, medical staff under 30 years old have a low perception of person-job fit, which may be due to the fact that young doctors have not decided their subjects and their degree of fit with their jobs is lower. Meanwhile, heavy workload, long hours, new job performance anxieties, a hierarchical work environment all place considerable stress on junior doctors (Roberts-Thomson & Kirchner, 2018).

In addition, this research shows that the perception of workplace violence among doctors under 30 years old is significantly higher than that of other groups, and the perception of them on interpersonal relationship is significantly lower than that of other groups, which may be related to workplace bullying encountered by young doctors. A research of workplace bullying junior doctors in the United kingdom reported that among 594 young doctors, 220 (37%) thought they had been bullied in the past year, and 486 (84%) experienced bullying behavior at least once; 47 people (69%) have witnessed others being bullied (Brand et al., 2017). Domestic related literature also pointed out that the incidence of workplace bullying among junior nursing staff reached 53.2% (Yin, 2017).

5.1.2.5 On difference due to working tenures

The results show that there are significant differences in perceived job resources and job demands among groups of different working tenures. The overall job resources, perceived career opportunities, person-job fit and interpersonal relationship of medical staff with 5-9 working years are significantly lower than those of other groups. The overall job demands, work-family conflicts, research pressure, perceived public disunity and workplace violence of medical staff with 5-9 years of working experience are significantly higher than those of other working age groups; Medical staff with 5-9 years' working experience have significantly lower job engagement than other groups, and their job burnout is significantly higher than

other groups.

It can be seen from the results of this research that the medical staff with 5-9 years' working experience is a high-risk group. According to the Chinese education system, the average age of medical staff is 18 years, and the academic system of clinical medicine is 5 years. Nursing, clinical laboratory and other disciplines are all 4 years. In addition, with 3 years' standardized training of medical practitioners, the age of medical staff entering the workplace is usually around 25 years old, while those with 5-9 years' working experience are usually 30-35 years old. The research of the scientific team of Stanford University Medical School shows that there are three obvious turning points in people's life cycle: 34 years old, 60 years old and 70 years old, of which 34 years old is the first and most relevant and meaningful turning point in the workplace. In the early adulthood, people's psychological development is stable, their intelligence level is constantly rising, and it tends to be stable by the age of 25, while creative thinking can maintain its peak in about 10 years (Zhao & Yuan, 2020). However, it should be noted that people's physiological functions begin to age from about 30 years old. Coupled with the continuous transformation of family roles and workplace roles and the gradual increase of work pressure, many people begin to feel occupational anxiety and physical and mental fatigue around 35 years old, and even have a sense of hopelessness of exhaustion. If it can't be overcome well, it will lead to "job burnout".

5.2 Conclusion and discussion of model verification

Job features (job demands / job resources) and job state (job burnout / engagement) have been researched extensively from different backgrounds, the results are various as well. Given consideration to current trend, this research includes the mediating effect of job engagement and moderating effecting of Confucianism coping besides the exploration of the four variables above in healthcare industry.

5.2.1 Relationship between job demands, job resources, job burnout and job engagement

According to the "two paths" hypothesis of JD-R theory, there are two paths of influence of work on employees: loss and gain (Demerouti et al., 2001; Schaufeli et al., 2009). The first path, the loss path, emphasizes that job demands are the "negative factors" that consume individual energy at work. When job demands (negative factors) continue to be high, employees' energy will be continuously lost in the process of work, which may eventually lead to burnout. Through data analysis, this research shows that job demands have a

significant positive impact on job burnout, H1 is established. The second path, gain path, abundant job resources can restrain job burnout and increase job engagement (Schaufeli & Taris, 2013). This research also confirms this hypothesis, that is, job resources have a significant positive impact on job engagement, and job resources have a significant negative impact on job burnout. Consequently, H3 and H4 are verified.

Previous studies have been controversial about the influence of job demands on job engagement, and some studies think that job demands can only affect job burnout, but not job engagement (Schaufeli & Bakker, 2004; Schaufeli & Taris, 2013). Another part of the research holds that job demands can affect job engagement, and job demands may negatively affect job engagement (Hakanen & Roodt, 2010; Lee et al., 2019), one reason may be that job demands are negatively correlated with job resources (Bakker et al., 2003; Demerouti et al., 2001), higher job demands can reduce job engagement by consuming a lot of resources, and on the other hand, it may reduce job engagement by increasing job burnout, because the core burnout and engagement dimensions can be seen as opposites of each other (González-Romá et al., 2006): when burnout levels are high—either because of high demands or because of lacking resources – this is associated with low levels of engagement. The results of this research confirm the influence of job demands on job engagement, that is, job demands have a significant negative impact on job engagement, thus H2 is verified.

Previous studies rarely discussed the relationship between job engagement and job burnout. After data analysis, this research confirmed that job engagement has a significant negative impact on job burnout, and H5 is confirmed. This conclusion is also proposed in Zhang's (2021) research on job burnout of primary-level village doctors in China. This research found that the job engagement of rural doctors has a negative impact on job burnout. The author believes that the relationship between job engagement and job burnout may depend on the degree of job engagement. Excessive job engagement may increase various job demands (such as workload, work-family conflict, etc.), thus increasing the risk of job burnout (Engelbrecht et al., 2020), Meanwhile, high engagement workers induced by negative emotions are more likely to develop workaholic tendencies (Van Wijhe et al., 2011), workaholism will cause job burnout through high work load and low psychological capital (Moyer et al., 2008); A reasonable level of work engagement may produce a better sense of control over work (Manish et al., 2018), thereby reducing job burnout. Therefore, future research can try to explore and verify the U-shaped relationship between job engagement and job burnout, and calculate the inflection point where job engagement first positively and then negatively affects job burnout, so as to provide new ideas and insights for further exploring

the boundary between job engagement and job burnout.

5.2.2 The influence of job demands on job burnout and job engagement

The results show that job demands have a certain impact on both job burnout and job engagement. This is consistent with the research conclusion of Demerouti et al. (2001). Demerouti et al. (2001) believed that the environment with high job demands and few work resources would easily lead to job burnout. When work resources are insufficient to cope with the demands of work, work engagement will also decrease. Based on the literature review of medical and health industry's job characteristics, workload, work-family conflict, research pressure, perceived public disunity and workplace violence are listed as the job demands with medical industry characteristics, and the influences of the above job demands on job burnout and job engagement are discussed respectively. After data analysis, workload has a significant positive impact on job burnout, H1a is confirmed; Work-family conflict has a significant positive impact on job burnout, H1b is confirmed; Research pressure has a significant positive impact on job burnout, H1c is confirmed; Perceived public disunity has a significant positive impact on job burnout, H1d is confirmed; Workplace violence has a significant positive impact on job burnout, H1e is confirmed. Workload has a significant negative impact on job engagement, H2a is confirmed; Work-family conflict has a significant negative impact on job engagement, H2b is confirmed; Scientific research pressure has a significant negative impact on job investment, H2c is established; Perceived public disunity has a significant negative impact on job engagement ($p<0.001$, standardization coefficient=-0.210), H2d is confirmed; Workplace violence has a significant negative impact on job engagement ($p=0.001$, standardization coefficient=-0.124), H2e is confirmed as true.

However, this conclusion differs from some previous research results, for instance, Jiang (2010) conducted research on security practitioners, and results showed that job demands are not correlated with job engagement. Rashifah and Kamaruddin (2013) did a survey of HVAC workers in Malaysia. The results showed that job resources were significantly and positively correlated with job engagement, while job demands were negatively correlated with job engagement, but $p>0.05$ showed no significant relationship. The author believes that this may be related to the specific job demands and research samples selected. This research selected job demands with characteristics of the medical industry, and samples were defined as medical staff in tertiary public hospitals, who have been under high pressure and workload for a long time. In addition to possessing high-level clinical technology, medical workers also need to constantly update their knowledge and complete scientific research and teaching tasks.

In such a state, excessive job demands will further weaken the time and energy of medical workers, thus reducing job engagement. This result is consistent with the study of Bai and Zhang (2014), they investigated the job engagement of 379 R&D personnel in clothing enterprises. The results showed that job demands were negatively correlated with job engagement, and job engagement decreased with the increase of job demands to a certain extent, and vice versa.

It is worth mentioning that this research validates the significant impact of perceived public disunity on job burnout and job engagement, with the Covid-19 pandemic constituting a very specific and stressful work environment for many people, especially those working on the front line. The front lines of the Covid-19 pandemic include many different roles, including those in healthcare and social care, but also many other roles such as retail and supply chain workers that were never previously thought to be "front lines" in the fight against infectious diseases (Sumner & Kinsella, 2022). These key actors face a variety of new stressors associated with the pandemic: risk of infection, shortages of protective equipment, and accelerated and sustained work rhythms, including peak infection and panic buying stages (Britt et al., 2021; Johnston et al., 2021; Morgantini et al., 2020; Rodríguez-Rey et al., 2020). Thus, no matter what role it is working on the front lines of the pandemic, they are interdependent with the public (Sumner & Kinsella, 2021). For health workers, active public cooperation and solidarity to minimize community infection means less risk of capacity overload and workload for health workers.

5.2.3 The influence of job resources on job burnout and job engagement

Based on the literature review of the job characteristics of medical and health industry, this research listed perceived career opportunities, person-job fit, perceived organizational status, interpersonal relationship and organizational justice as job resources, and discussed the effects of the above job resources on job burnout and job engagement. After data analysis, perceived career opportunities have a significant positive impact on job engagement, H3a is confirmed. This is the same with Yu (2017), she pointed that career development opportunities can give employees a sense of hope or optimism. In the process of career development, the organization provides a growth platform for employees to obtain career development opportunities. Employees with more awareness of career development opportunities tend to think that their pursuit of work significance has been recognized by the organization, so they will focus more on work and show higher positive emotions. Thus, individuals who perceive more opportunities for career development can motivate higher levels of job engagement.

According to social exchange theory (Cropanzano & Mitchell, 2005), when employees get the expected reward from the organization, they will have the psychological emotion of rewarding the organization and try to reward the organization through some ways, such as actively participating in the work, putting forward opinions and suggestions. Career development opportunities, as an important form of non-economic compensation, can motivate medical staff to strive to accomplish tasks and goals in order to reward the organization. Person-job fit has a significant positive impact on job engagement, H3b is confirmed. Career scholars believe that borderless career attitude leads individuals to evaluate career success not only from promotion and salary, but also from their own subjective standards of career success (Heslin, 2005). For example, individuals may seek to acquire specific types of skills, or work in specific organizational settings. Thus, employees' perceptions of how well job opportunities within the organization match their career goals and interests may be subjective. Perceived career opportunities can be considered a contextual resource that affects a person's attitudes and behavior in an organization (Kraimer et al., 2011). In this research, the correlation between perceived career opportunities and job burnout is not statistically significant, which may be because medical staff, as professional and technical personnel, have a relatively clear career development path. In most studies, perceived career opportunities are used as moderating variables to influence work attitude (Forootan, 2012; Rasheed et al., 2020; Robert & Vandenberghe, 2017; Weng & Xi, 2010).

Person-job fit has a significant positive effect on job engagement and a significant negative effect on job burnout. Hypothesis H3b and H4b are valid; the research results of Wang (2020) are similar to this research, confirming that doctor-environment fit is negatively correlated with turnover intention, and job burnout is an important mediating variable, especially the matching between doctors and hospitals, doctors and colleagues, which is most correlated with turnover and quitting medical work. The match between physician and environment can reduce job burnout and turnover intention, and has a positive impact on doctor-patient relationship (Shanafelt & Noseworthy, 2017).

Perceived organizational status has a significant positive effect on job engagement and a significant negative effect on job burnout. Hypothesis H3c and H4c are valid. This may also have something to do with Chinese culture. Farh (1995) found that under the Chinese culture of high power distance and high role generalization, and unique collectivism, individuals tend to position themselves in a certain group and pay more attention to the opinions and reactions of others to maintain their status in the group. Lammer (2009) found that high-power people in eastern countries are more responsible in their work tasks and will take the initiative to

make more dedication behaviors. The reason may be that Eastern countries have paid attention to the term "harmony" since ancient times and emphasized collective interests. In collectivist culture, power is associated with social responsibility. This also explains that employees with a high perception of organizational status have good interpersonal relationships and a higher level of engagement.

This research explored the effect of interpersonal relationship on job engagement and job burnout of medical staff, and the results showed that there was a significant positive effect on job engagement, and hypothesis H3d was valid. The medical profession has long been regarded as an emotionally demanding work environment where the quality of teamwork and support from colleagues is very important (van der Heijden & Demerouti, 2008). Good interpersonal relationships can act as external motivators because a well-resourced work environment will motivate individuals to be willing to contribute their efforts and abilities to work tasks. The availability of work resources will ensure the successful execution of individual tasks. Consequently, this research has supported the social exchange theory put forward by Blau (1964), that is, when medical staff feel that supervisors, colleagues and patients give them support, care and respect, they feel obliged to reciprocate by actively working. The author also confirmed that interpersonal relationship has a significant negative impact on job burnout, and H4d holds true. In this research, the score of interpersonal relationship of nursing staff was significantly lower than that of doctors. Some studies have also confirmed that the biggest stressor of nursing staff is the conflict with doctors (Mrayyan et al., 2021), it may be because of a lack of cooperation between doctors and nurses or a lack of respect by doctors for the contribution of nurses to patient care planning. Negative and positive interpersonal interaction have different effects on job burnout of medical staff, Linos (2022) discussed sexual harassment — a pervasive type of negative social interaction — strongly predicts emotional exhaustion and depersonalization. On the contrary, social connectedness—a type of positive social interaction—can improve one's sense of personal accomplishment with an effect similar in magnitude to more intensive in-person interventions. In addition to the direct impact of interpersonal relationship on work attitude, some previous studies also point out that interpersonal relationship can produce a reverse buffer effect between stressors and job burnout (Jenkins & Elliott, 2010), that is, for employees who report higher levels of support, there is a significant positive correlation between stressors and depersonalization. Employees who reported lower levels of support did not. Behr (1985) suggests an explanation for this phenomenon, namely that co-workers may change a person's perception of the situation from positive to negative, or emphasize already negative

evaluations (that is, things are actually worse than they initially thought), and it is possible that this negative evaluation will subsequently manifest itself in the form of higher levels of depersonalization. Subsequent studies can further explore the moderating effect of interpersonal relationships.

Organizational justice has a significant positive effect on job engagement and a significant negative effect on job burnout. Hypothesis H3e and H4e are valid. At the same time, the author believes that organizational justice also plays a moderating role in the relationship between job characteristics and work status, just like the tunnel effect theory (Hirschman & Rothschild, 1973; Meng et al., 2020), in the congested two lanes, people find that the vehicles in the next lane start to move. Even though their own lane is still congested, they feel happy because of the movement of the next lane, because they have an optimistic expectation of their own lane. A relatively fair organizational environment ensures the patency of the work tunnel and enables employees to have a good expectation of the organization, thereby reducing the negative evaluation of the organization and improving the organizational loyalty. But if, after a while, people find that their own lane is still congested, just because the next lane is cleared, then the optimistic expectation will disappear and be replaced by dissatisfaction, anger and even illegal lane changes. To sum up, organizational justice has an impact on employee behavior by improving employee satisfaction and enhancing communication, trust and cohesion.

5.2.4 The mediating role of job engagement

As job resources positively affect job engagement, job demands negatively affect job engagement, and job engagement negatively affects job burnout, this research assumes that job engagement has an intermediary effect between job resources and job burnout, and job engagement has a mediate effect between job demands and job burnout. After data analysis, the hypotheses H6 and H7 are confirmed. In previous research, job engagement has also been considered as mediating variable and moderating variable before, such as Ashfaq's research (2021) analyzes the mediating effect of job engagement between person-organization (PO) fit with organization citizenship behavior-individual (OCBI) and organization citizenship behavior-organization (OCBO). Li et al. (2022) conducted a study with a total of 656 college teachers from five provinces. The results show that job engagement plays a partial mediating role between job resources and turnover intention, with a mediating effect of 35%. Job resources can not only directly affect the turnover intention of college teachers, but also further affect the turnover intention through job engagement. Therefore, the turnover intention

of teachers can be reduced by improving their job engagement. Khan(2021) confirmed that work engagement has a significant partial mediating effect between job insecurity and job performance. When employees feel insecure in their professional relationships, they can restore their job potential by increasing job engagement, so as to increase their status in the organization.

5.2.5 The moderating role of Confucian coping

This research confirmed the moderating effect of Confucian coping between job characteristics (job demands, job resources) and job status (job burnout, job engagement), that is, Confucian coping had a significant negative moderating effect between job demands and job burnout. When the level of Confucian coping was high, the positive effect of job demands on job burnout weakened, H8a was established. Confucianism has a significant positive moderating effect between job resources and job engagement, that is, with the increase of Confucianism, the positive influence of job resources on job engagement gradually increases, which indicates that H8b is confirmed. The author supposes that the validation of H8a may be due to the Confucian attitude towards pressure itself, while H8b being valid may be due to the Confucian attitude towards the way people behave.

First of all, the Confucian attitude towards pressure. Chinese culture emphasizes tolerance, persistence, tolerance and fatalism more than western culture. Therefore, Chinese people will face pressure with a positive attitude, reconstruct their cognition of pressure, and give pressure a more positive meaning to reduce anxiety and alleviate psychological discomfort (Chou et al., 2011; Hsu et al., 2008). Confucian coping mainly adopts two ways: one is to resolve pressure outwardly through coping behavior; Shi and Zhang (1997) emphasized the positive and enterprising spirit of Confucianism in the face of difficulties and pressure. Whether it is dealing with people or pursuing career, Confucianism advocates relying on the spirit of fortitude to make continuous progress. The second is inward self-regulation through cognition and introspection (Wang & Shi, 2013). Confucianism uses meditation and introspection to strengthen self-restraint and re-observe and re-understand themselves in order to meet the demands of social norms. Introspection is an important method of controlling individual body and mind (Zhou, 2006), when people have the ability to control themselves, they will have more confidence to deal with pressure (Pearlin & Schooler, 1978). Chang et al. (2020) also puts forward the model of cultural compatibility - work stress relief, which holds that the spirit of self-improvement and introspective seeking advocated in the Confucian

cultural tradition can answer and solve the pressure and problems encountered by employees in the work. Therefore, the author speculated that it is the stress coping effect of Confucian coping philosophy that makes it play a negative regulating role between job demands and job burnout. When the level of Confucian coping thought is high, the positive impact of job demands on job burnout is weakened.

Secondly, the Confucian attitude towards people. The Confucian philosophical tradition regards individual moral cultivation as the basis of social order, and proposes "self-cultivation", "family harmony", "governance" and "leveling the world". When a person with moral cultivation, become a gentleman, he can manage their own family; when one can manage his family well, he can succeed in his career. This is the Tao, a key concept in Confucianism (Angle & Cua, 2001). For Confucianism, Tao is the road to a better life, Tao is realized through virtue, virtuous people are gentlemen, they have high moral standards with virtue, people can live a different life. The Confucian view of a good life is that individuals live in harmony with others (Dobrin & Arthur, 2001). This explains why the Chinese attach so much importance to "harmony". This idea of harmony is also reflected in the reciprocity of interpersonal relations (Chen & Chen, 2004). Wong et al.(2001) discussed the concept of reciprocity in Chinese culture, and it is argued that when the relationship between managers and subordinates is harmonious, subordinates tend to show loyalty and commitment to managers, and the impact of organizational commitment on job satisfaction and turnover intention of Chinese employees is much stronger than the results of Western studies. As an old Chinese saying goes, "the grace of dripping water shall be reciprocated by the spring." (When a person receives a little favor from others, he should try his best to repay the gratitude.) Therefore, the author believes that this view explains the positive moderating effect of Confucianism on the relationship between work resources and work engagement. For employees with higher Confucianism philosophical awareness, when they have access to various resources and support from the organization or leadership, the degree of work engagement is stronger than that of employees with low Confucianism.

5.3 Theoretical implications

First of all, through literature review and quantitative research, this research finds out the job demands and job resources that affect the working status of medical staff in tertiary public hospitals, and constructs a structural equation model for job burnout and job engagement of medical staff in tertiary public hospitals from the perspective of job demand-resource theory.

The relationship among job demands, job resources, job burnout and job engagement of this group is clarified. The mediating role of job engagement among job demand, job resources and job burnout is also further analyzed, and the moderating role of Confucian coping in this model is also discussed in the context of Chinese culture.

Secondly, this research expands the relationship between job engagement and job burnout. By reviewing the previous studies, there are few studies in medical field that take job burnout and job engagement as outcome variables into JD-R model. However, some scholars have suggested that active intervention in job engagement may also have a measurable impact on job burnout (Schaufeli & Taris, 2013). Therefore, in this research, job engagement and job burnout are taken as outcome variables into the model at the same time. Through structural equation model, it is proved that job engagement not only directly has a negative impact on job burnout, but also plays a significant intermediary role between job characteristics (job resources, job demands) and job burnout, which provides a new research idea for future research on job engagement and job burnout. At the same time, the author believes that the relationship between job engagement and job burnout may depend on the degree of job engagement. Excessive job engagement may increase various job demands (such as workload, work-family conflict), thus increasing the risk of job burnout (Engelbrecht et al., 2020), meanwhile, highly engaged workers induced by negative emotions are more likely to develop workaholic tendencies (Van Wijhe et al., 2011), and workaholism will cause job burnout through high work load and low psychological capital (Moyer et al., 2008); proper level of job engagement could introduce relatively good sense of control on job (Manish et al., 2018), thus reducing job burnout. Therefore, future research can try to explore and verify the U-shaped relationship between job engagement and job burnout, and calculate the inflection point where job engagement first positively and then negatively affects job burnout, so as to provide new ideas and insights for further exploring the boundary between job engagement and job burnout.

Thirdly, this research enriches the theoretical research on antecedent variables of medical staff's job burnout. In the past, the antecedents of medical staff's job burnout were usually limited to personal factors (Corrigan et al., 2020; Jiang & Yu, 2021; Taycan et al., 2013; Thirioux et al., 2016; Yuan et al., 2019), work factors (Corrigan et al., 2020; Dyrbye et al., 2013; Shanafelt & Hasan et al., 2015) and organizational factors (Bronkhorst et al., 2015; DeChant et al., 2019; Tawfik et al., 2019), but the influence of extra-organizational factors on medical staff's job burnout was rarely mentioned and studied. This research validates the significant impact of perceived public disunity on job burnout and job engagement, with the

Covid-19 pandemic constituting a very specific and stressful work environment for many people, particularly frontline workers such as healthcare workers. They face a variety of new stressors related to Covid-19: the risk of infection, shortages of protective equipment, and an accelerated and constant pace of work (Britt et al., 2021; Johnston et al., 2021; Morgantini et al., 2020; Rodríguez-Rey et al., 2020). Therefore, frontline medical staff rely on the public to adhere to public health guidance and prevent the spread of the virus during the epidemic, thereby reducing their potential workload (Sumner & Kinsella, 2021), in the case of epidemic outbreak again at any time, the social public to collective goals (lowered mortality and morbidity) and the joint efforts of support for frontline staff to return feeling plays a key role, the social public also depend on the frontline staff to take care of or ensure that social work. The author believes that the social exchange theory (SET) can be used to understand this interdependent relationship, and reciprocity and mutual trust form the basis of the psychological contract between the two parties (Cropanzano & Mitchell, 2005). However, public disunity and lack of cooperation with public epidemic prevention policies may break this reciprocal relationship, resulting in job burnout of medical staff. Therefore, this research expands the antecedent variable of job burnout from inside the organization to outside the organization -- the social public domain.

At last, this research further expands the research extension of JD-R theory. Previous research on JD-R theory began with the focus on occupational resource, and went deep and extended to the field outside work. The introduction of personal resource is an important supplement and extension of JD-R model. So far, personal resources are mainly integrated into JD-R model in the following ways: (1) Personal resources directly affect happiness, and personal resources and work input promote each other according to the Conservation of Resources theory. (2) Personal resources play a moderating role in the relationship between job characteristics and well-being. (3) Personal resources play an intermediary role between job characteristics and happiness. (4) Personal resources affect the perception of job characteristics. Social cognitive theory (Bandura et al., 1999) indicates that personal resources (such as self-efficacy) shape the way people understand and respond to the environment. Xanthopoulou et al (2007) maintained that, job resources play an intermediary role in the relationship between personal resources (i.e. self-efficacy, optimism and self-esteem based on organization) and job engagement. At present, the individual resources included in the research mainly include psychological, physical, emotional, intellectual and capital resources, while cultural factors are barely studied as individual resources, and the possibility of them as regulatory factors is largely ignored. Therefore, this research starts from the unique

perspective of personal cultural background and cultural cognition, and introduces Confucian coping as the moderating variable, which proves that Confucian coping can cushion the negative impact of job demands on job burnout, enhance the positive impact of job resources on job dedication, expand the possibility boundary of JD-R theory, and improve the existing literature research.

5.4 Practical implications

5.4.1 Increasing job resources is an effective way to improve job engagement and intervene job burnout

The results of this research show that the level of employees' job engagement is directly related to the quality, nature and degree of the resources they control. After identifying the key job resources, increasing the nature and scope of these resources can not only improve the engagement, but also alleviate job burnout. Therefore, improving job resources is an effective way to improve job engagement and intervene job burnout.

5.4.1.1 Good career development plan for medical staff

Provide diversified career growth opportunities for medical staff and create a good career development space. After employees join the organization, they pay special attention to their personal growth and development, and usually have a strong desire for self-realization and career success. If the organization cannot provide opportunities to meet their career interests and goals and promote their learning and growth, it will easily lead to their loss of enthusiasm for work, and even the situation of leaving the organization in search of better development opportunities and space (Xuan et al., 2018). This research also confirms that medical staff's perception of career development opportunities has a significant positive impact on their job investment. At present, there are mainly the following problems in the career planning of staff in China's tertiary hospitals (W. Wang et al., 2020) : unreasonable promotion mechanism of professional title, unsound training system, lack of organic combination of hospital development and individual development; The career orientation of employees is not comprehensive. Therefore, hospital administrators should combine professional title promotion with talent training mechanism at the beginning of new staff's employment. In the framework of hospital talent training planning, according to the years of professional title promotion and the characteristics of new staff's specialties and disciplines, they should help new staff to make career planning, especially pay attention to the professional development

and growth of female medical staff and non-intra-system medical staff (Ling & Hu, 2016; Zhou, 2022). The human resources management department should establish a differentiated career development model and evaluation system that meets the demands of different positions and specialties based on the characteristics and job demands of employees. For example, doctors can choose clinical, scientific research or clinical research with heavy development path, nursing staff can choose nursing management, nursing teaching, clinical nursing and other development directions. The human resources department shall formulate job descriptions in detail, defining the qualification requirements, job responsibilities, training contents, assessment indicators and advanced standards. At the end of each year, performance evaluation is carried out for staff at all levels against the standards, so as to realize a benign competition mechanism of "the excellent are superior, the fair are inferior, and the mediocre are inferior". In particular, the extrinsic staff in domestic tertiary hospitals accounts for about 20%-50% of the total (Gao, 2018; Xiang et al., 2020; Zhou, 2022), we should pay attention to the career development of young medical staff outside the system, so that every worker can find a career development route that really suits him or her, and effectively enhance the confidence of medical staff in career development.

5.4.1.2 Strengthening the person-job fit of medical staff

Emphasizing the best match between people and jobs has always been the goal pursued by managers at all levels. For this reason, organizations often invest a lot of manpower and financial resources, such as strict recruitment and selection, thoughtful and perfect training, various deployment and promotion measures. Previous theoretical studies have also confirmed that people-job fit has a significant positive impact on outcome variables such as job performance and organizational commitment (Kristof-Brown et al., 2005b). The results of this research have confirmed that human-person-job fit has a significant positive impact on medical staff's job engagement and can effectively alleviate job burnout, which indicates that the organization's various investments based on person-job fit are worth the money in terms of improving medical staff's job engagement and alleviating job burnout. When doing a good job of person post matching, we should also pay attention to two kinds of person-fit mismatch, that is, insufficient ability and excess qualification. Incapability will produce high perception of job demands, which will inevitably lead to job burnout; In fact, the perception of over-qualification means that the actual work does not meet the requirements of career growth and development, and cannot give full play to their own advantages and cannot perceive their importance in the organization (B. Chen et al., 2019), therefore, career satisfaction and

perceived career success of employees will be weakened, resulting in job burnout (Wang et al., 2021).

5.4.1.3 Attaching importance to the perceived level of medical staff's organizational status

Medical staff's perception of organizational status is a predictor of job engagement. Hospital managers should adopt a highly inclusive approach to make doctors more like stakeholders. According to reciprocity, employees who are perceived to be valued and cared for by the organization will repay the organization with stronger intrinsic motivation, and will actively improve work processes and methods, hoping to bring higher performance level to the organization with their own experience and ability According to reciprocity, employees who are perceived to be valued and cared for by the organization will repay the organization with stronger intrinsic motivation, and will actively improve work processes and methods, expecting to bring higher performance level to the organization with their own experience and ability (Luksyte & Spitzmueller, 2016). For example, there are many high-level talents in large tertiary hospitals, so the management mode of "platform-project-talent" can be adopted (Chang & Dai, 2022). Further measures also include improving the international exchange management mechanism, expanding the international exchange and cooperation platform, deepening the cooperation of international research projects, focusing on the whole chain of personnel training system, building international brand academic conferences, innovating the mode of foreign exchange and also other ways to provide an international high-quality platform for hospital talents, so that employees can rely on the platform to develop their talents through cooperation.

Managers should trust subordinates and be good at and dare to authorize them, so that subordinates can give full play to their initiative (Y. Wang et al., 2017), increase their sense of ownership, and truly have a sense of belonging to the organization. At the same time, they should also pay attention to giving necessary guidance to subordinates at an appropriate time. Managers should be good at motivating employees, encouraging innovation, tolerating failure, building a learning organization, providing employees with various training and learning opportunities, enabling employees to grow continuously, and setting up a clear career development channel for employees. In addition, the organization should provide employees with the resources needed for good work, and constantly improve working conditions. Create a good organizational culture, so that employees have a strong sense of belonging, value orientation and spiritual motivation. In terms of life, the organization should provide

employees with good accommodation, entertainment and fitness conditions, implement the Employee Assistance Program (EAP), help employees solve practical difficulties, and properly handle the work-life balance (Shi et al., 2022).

5.4.1.4 Optimizing the interpersonal relationship of medical staff

The results of this research show that the interpersonal relationship of medical staff has a significant positive impact on their job engagement and a significant negative impact on job burnout. The interpersonal relationship of medical staff includes the interpersonal relationship with leaders, colleagues and patients. This means that medical staff who get support from leaders and colleagues are more likely to reward leaders and colleagues with a higher level of job engagement, which is similar to Andrew's research (2012). At the same time, the best cooperation relationship between doctors and organizations is also crucial to doctors' job investment. Hospital administrators should build a benign cooperation model between doctors and organizations, which is characterized by mutual trust, commitment, transparency and sincerity (West et al., 2018).

This research also confirmed that maintaining a good doctor-patient relationship can significantly increase the work input of medical staff, stimulate the sense of reciprocity between medical staff and patients, and guide medical staff to work better to meet the needs of patients. Based on this, hospitals can take measures improving the communication skills of medical staff and effectively controlling the conflicts between doctors and patients as an important part of medical staff training. The physician-patient communication evaluation scale can be referred to, such as the Calgary-Cambridge observation guide (Kurtz & Silverman, 1996) and SEGUE Scale (Li et al., 2016), which have been widely used abroad. The evaluation results are clear and comprehensive, with high reliability and validity, and can provide communication templates and references for medical staff while they understand their communication ability (Hou et al., 2014).

5.4.1.5 Creating a fair organizational climate

This research confirmed that organizational justice can positively affect the job engagement of medical staff, which is basically consistent with the view of other scholars that organizational justice can lead to positive organizational effects (Liu & Yang, 2019; Meng et al., 2020; Zeng & Zhang, 2016). If employees can be treated fairly in terms of job resources, salary and benefits, training and learning, promotion opportunities, etc., and the organization can take justice and justice into account in terms of procedures, distribution and interpersonal interaction, then employees will feel that they have been evaluated and treated fairly, and they

will be respected as they should, and they will inevitably feel grateful for the organization (Zeng & Zhang, 2016).

Organization and management personnel should try their best to maintain and improve organizational justice and treat every employee fairly. On the one hand, we should be fair in procedures, evaluation standards, processes, responsibilities and rights, and performance evaluation standards, methods and processes. When employees find unfair rights and have channels to appeal, the organization must explain and respond. Pay attention to fair treatment in the interaction between the superior and the subordinate. The superior can't oppress people with power. The subordinate should report the relevant information according to the facts, and can't be informed without reporting it. The whole organization should be transparent and open to the public, and ensure employees' right to know. Besides procedural justice, organizations should also consider distribution justice (Deepa, 2020). The distribution of benefits, training opportunities, promotion opportunities and various honors should be based on efficiency as well as relative balance. The distribution among different departments, different series, different levels and different generations within the organization should also give priority to efficiency and give consideration to justice (Gupta et al., 2013). Excessive uneven enjoyment and hardship will inevitably affect the positive attitude of employees and ultimately damage the overall efficiency of the organization.

5.4.2 Identifying key job demands to effectively intervene the job burnout of medical staff

The results of this research show that employees' job burnout and job engagement level are directly related to their job demands. After determining the key job demands, we should consciously intervene and avoid these job demands so as to achieve the goal of alleviating job burnout and improving job engagement.

5.4.2.1 Reducing workload of medical staff to reduce work-family conflicts

First of all, it is necessary to formulate a scientific and reasonable human resources development plan. According to the workload, the disease spectrum in the area where the hospital is located and its own development strategy, the hospital administrators make a scientific and reasonable human resources development plan (Cheng et al., 2021), and on this basis, they strengthen the recruitment of talents, simplify the recruitment degree, shorten the recruitment cycle and expand the total amount of hospital human resources.

Secondly, it is necessary to scientifically analyze the workload of each time period every

day, formulate a reasonable flexible scheduling plan, arrange the working hours of medical staff in an orderly manner. It also helps to reduce staff's workload during the weekends, fully guarantee the rest rights of medical staff, provide measures for balancing job and life such as child-rearing and paternity leave, and provide shuttle buses for employees' children. The organization could also set up children's activity rooms, reduce the conflict between work and family, implement the paid vacation system, and conduct regular health check-ups, which will help employees to work better and thus promote organizational performance.

Thirdly, improve the level of hospital information construction (Zhao & Li, 2021), vigorously carry out mobile rounds and mobile nursing, optimize internal operation processes such as consultation, shift change and surgical safety verification, and improve work efficiency.

Finally, improve the ability level of logistics service in clinical front-line, find out the problems existing in clinical front-line and help solve them in time through daily inspections, ward rounds by hospital leaders, regular meetings and other forms, and do a good job in equipment maintenance, material delivery and other services to relieve the worries of clinical front-line work.

5.4.2.2 Relieving the scientific research pressure on medical staff

At present, in the evaluation criteria of National Clinical Key Specialty, the academic influence, research projects, research achievements, academic status and research level of academic leaders and academic pillars of the hospital are over-emphasized, and there are high requirements for research projects, papers and research awards of physicians, but there are no evaluation criteria for clinical ability for the requirements of such a heavy workload of clinical work. As a result, some doctors with strong clinical ability but no scientific research achievements are hindered in the promotion of professional title, while those with strong scientific research ability but lack of clinical exercise and diagnosis and treatment ability can take the first opportunity in the promotion of professional title (Sun & Zhang, 2021). Based on this situation, improvements should be made mainly in the following two aspects:

First, according to the doctor's career planning and post setting, the doctor's development path can be divided into clinical, scientific research and clinical research. Doctors should be guided to return to clinic as much as possible, and clinical practice should be highlighted in the evaluation of doctor's professional title (Cheng et al., 2021). Published papers, scientific research projects, awards, research experience abroad, doctoral degree should not be regarded as the necessary conditions for professional title declaration (Jia, 2022). Exploring the number

of clinical works such as outpatient workload, number of discharged patients, and number of discharged patients undergoing surgery as the "threshold" conditions for doctors to be promoted to professional titles, and taking medical records as an important carrier to evaluate the quality of clinical work. From the four dimensions of technical ability, quality and safety, resource utilization, and patient management, indicators such as disease coverage, postoperative complications, average hospitalization days of a single disease, and average cost of a single disease are set to quantitatively evaluate the quality of doctors' clinical work, so as to solve the problem that clinical work is difficult to quantify in the past (Luo et al., 2022).

Secondly, for medical staff who are interested in scientific research, they should establish a scientific research training system, a scientific research management system and a scientific research incentive system (X. Zhang et al., 2022), create a strong academic atmosphere for scientific research innovation, give medical staff full academic autonomy, advocate critical spirit, allow academic contention, establish a good academic atmosphere, and strive to create a cultural environment full of honesty, mutual respect, openness and inclusiveness, so as to stimulate their enthusiasm for scientific research.

5.4.2.3 Paying attention to the influence of social factors on the working state of medical staff

This research confirmed that the joint efforts and cooperation of the public for the lowered mortality and morbidity played a significant role in the job burnout and job engagement of medical workers. When medical staff perceive that the public has not complied with the public health and epidemic prevention policy, they will have negative emotions and lead to burnout. This finding is consistent with the existing occupational stress theory (Jovica et al., 2006), and supplements it. It studies the influence of wider society and culture on job burnout, and provides a useful framework for combining work with general social and cultural psychology theories. The public's social behavior directly affects the front-line workers (by increasing the infection rate, thus increasing the workload), and indirectly through this social channel, makes individuals feel betrayed and frustrated, because they think that the public has not fulfilled their default social obligations, hindering collective efforts. We conclude that this conclusion is also applicable to situations outside the context of COVID-19 pandemic, especially those occupations that are interdependent by the actions of multiple stakeholders.

5.4.2.4 Zero tolerance for workplace violence

In health care places, workplace violence is manifested as harassment, discrimination, insults and conflicts of patients or their families, and any form of violence against health workers is

unacceptable. Violence in medical places will not only increase occupational tension and burnout (Li & You, 2020), but also cause defensive medical behaviors of medical staff (Wang, 2018; X. Zhou et al., 2020) This research at the situation of workplace violence suffered by junior medical staff is more serious, and the situation of workplace violence suffered by nurses is significantly higher than that of doctors. Medical institutions should strictly implement the Regulations on Prevention and Treatment of Medical Disputes, resolutely crack down on medical-related crimes, assess the risks of medical practice, make emergency plans for medical-related crimes, strengthen hospital safety management, and advocate a culture of zero tolerance for violence against health workers. The hospital should set up a psychological consultation room to conduct regular positive psychological intervention for physicians, so that they can learn to relieve and vent their emotions (Xu et al., 2015). At the same time, we should strengthen publicity and education, do a good job of public opinion guidance, strengthen the guidance of public opinion supervision from self-media platforms, evaluate the justice of medical news, and create a good social atmosphere. We should take the initiative to use hospital mobile medical APP, WeChat official account, Weibo and other platforms to disseminate authoritative medical information in a vivid and people-friendly way, conduct the selection of "good doctors", "good nurses" and "good pharmacists", publicize the medical and health industry examples, and enhance the interaction, understanding and respect between doctors and patients. In addition, relevant health management departments should improve the medical insurance system as soon as possible to avoid the situation that doctors take defensive medical behaviors to avoid risks, so that doctors can focus more on the development of medical technology and the needs of disease treatment (Chen et al., 2016).

5.4.3 Establishing a magnetic hospital to create a high-quality nursing practice environment

This research shows that nurses' perceived person-job fit and interpersonal relationship are significantly lower than those of doctors, and their job burnout level is significantly higher than that of doctors. In recent years, the construction of magnetic hospitals has been carried out nationwide in the United States. Its concept means that under the severe shortage of nurses, hospitals can still attract professional nurses like magnets, reduce the turnover rate, have high-quality nursing teams and provide quality nursing services (Sun et al., 2012). Relevant research shows that magnetic hospital can provide a good working environment for nurses, improve their professional satisfaction (Goode et al., 2011),and be associated with lower rates of patient mortality (Bilgin & Özmen, 2022). Therefore, hospital administrators can

learn from the concept of magnetic hospital and focus on improving the practice atmosphere of nursing staff from the hospital management level (Xu & Xu, 2022; Zhang & Wang, 2022; L. Zhang et al., 2022). Establish a reasonable salary structure, maintain the salary level of nurses, and improve the satisfaction of nurses; By setting up diversified professional development channels, we can promote the development of clinical senior practical nurses, shape the new image of nurses, improve the overall quality of nursing team and make nurses' enthusiasm in an ideal state. Innovate the form and content of nursing service, improve nurses' sunshine income through out-of-hospital consultation, on-site service and online paid consultation, and realize the realization of knowledge and experience; Through the construction of participatory management, nurses are encouraged to participate in decision-making and management, the control ability and confidence of nurses in the working environment are increased, and the motivation of nurses to participate in ward management is stimulated, so that the passive relationship between managers and nurses is transformed into a relationship of mutual trust, mutual respect, equality and two-way communication.

5.4.4 Carrying out education and practice related to Confucianism to enhance employees' personal resources

This research has confirmed the influence of Confucian coping ideology on individual work status, but the influence of Confucianism on occupational environment is not only reflected in the individual. Previous literature has indicated that the cultural values of managers' leadership behavior and organizational culture has a significant impact, Lin (2013) reported that the Confucian work values of core transformational leadership behavior and high performance expectations have positive influence, the Confucian leaders often not only turned himself into a moral models, a gentleman, and through the emphasis on the importance of righteousness, they will also cultivate their followers to be moral excellent. Meanwhile, the application of sustainability in HRM is more effective and efficient under the influence of Confucian values (Mak et al., 2009). Confucianism would strengthen the relationships between sustainable HRM practice and employability of employees, sustainable HRM practice and the harmonious working environment, and sustainable HRM practice and employees' social well-being.

Therefore, in practice, we can make full use of the positive effect of Confucianism from three aspects: organizational culture, leadership and individual. First, at the organizational level, it is necessary to create a culturally appropriate organizational atmosphere. The values of "benevolence", "love", "filial piety" and "harmony" advocated by the Confucian culture

are highly consistent with the employees' own values, which can most arouse the resonance of employees (X. Chen et al., 2019). Creating a Confucianism-oriented cultural atmosphere in the organization also further alleviates the pressure caused by the inconsistent values between employees and the organization. Secondly, the study of Confucian culture was added to the training of leaders. Confucianism advocated admires towards sages as teachers and Confucian scholars as body, limiting the monarchy and setting up moral models that should be followed by both the monarch and the common people, so as to establish an ideal society in which all people would be virtuous. Confucianism believes that leaders should improve their ability and vision of understanding problems through continuous learning, and continuously practice the law of the mean, so as to achieve the moral height of "benevolence", and build the ability and moral compound leadership (Yang, 2021). Erben and Guneser (2008) proved in their research that "paternalistic" leaders (of the kind envisioned by Confucius) humanize and democratize the workplace: employees are more loyal to the organization if the leader is benevolent and has a high moral level. Paternalistic leadership has a significant positive correlation with the ethical climate in the organization. Thirdly, compared with Western culture, Chinese culture emphasizes tolerance, persistence, tolerance, and fatalism. Chinese people incline to face pressure with a positive attitude, reconstruct their cognition of pressure, and give pressure a more positive meaning to reduce anxiety and alleviate psychological discomfort (Chou et al., 2011; Hsu et al., 2008). The spirit of self-improvement and introspection advocated in this culture can address and solve the pressure and problems encountered by employees in their work. At the same time, existing studies have shown that the overall radiation effect of Confucian culture is conducive to stimulating the innovation enthusiasm of all employees, thereby improving the actual transformation efficiency of technological innovation achievements, and enhancing the marginal contribution of patented technology to enterprise business performance (Xu & Li, 2019).

Chapter 6: Conclusions

6.1 Limitation and further research

First, the analyses in the current study are based on cross-sectional data and, thus, do not confirm causality. In addition, more complex forms of non-recursive linkages could not be examined, as per the cross-sectional nature of the collected data. Therefore, longitudinal studies should be used in the future. That is, it should be investigated whether job demands and job resources at time 1 predict burnout and engagement at time 2, and whether burnout and engagement at time 3 predict personal and organizational withdrawal. So that it will help elucidate which factors are associated with a higher risk of developing long-lasting negative psychological effects on healthcare professional.

Second, the present study is based on the self-reports, as per the majority of burnout and engagement studies. Self-report data might be contaminated by respondents' bias. In the future, qualitative research methods such as job log method and interview method can be used to further understand the influence of individual and social narratives in healthcare professionals' burnout and engagement.

Third, the sample was not representative of the Chinese healthcare workers population, and the long questionnaires may have reduced the response rate. Due to the online survey for collecting data, the quality of the questionnaires not be monitored. Therefore, a rigorous sampling technique and larger samples are needed in future research. The samples in this study were large; however, these doctors were a small number of Chinese doctors. Considering of the sampling characteristics, the results of the study are not generalisable to all Chinese doctors. Moreover, the physicians were selected from tertiary public hospitals. We plan to survey physicians in secondary public hospitals, community health centers, village hospitals, and private hospitals in the future to form a complete picture.

Forth, the current research on job burnout and job engagement usually adopts single-level (individual) approach. Although job burnout and job engagement are a kind of work state perceived by individuals, they are influenced by organizational factors, job factors and individual factors at multiple levels. A single level approach may not provide a more integrative perspective. We plan to use the cross-level study which extend the present findings

considering job design characteristics at the hospital level of analysis.

Fifth, this research discusses the moderate effect of cultural factors between job burnout and job engagement. Broadened the research boundary of job burnout and job engagement from the perspective of personal culture. In the future, we can introduce more moderating variables (such as leadership, organizational culture, employment way, etc.) to further explore the relationship between these variables. At the same time, from a personal perspective, maybe more research should be done regarding the topic of personality and burnout. For example, the relationship between neuroticism and burnout.

Sixth, the author verified that work engagement negatively affected job burnout, but other studies suggested that high work engagement might increase various job demands (such as workload, work-family conflict, etc.), thus increasing the risk of job burnout (Engelbrecht et al., 2020). The author agrees that the relationship between job engagement and job burnout may depend on the degree of job engagement, consequently, future research can try to investigate and verify the job engagement and job burnout of U-shaped relationship, and computational work into after the first positive negative affects the turning point of job burnout, to further explore the boundary problem of job engagement and job burnout to provide new ideas and insights.

At last, this research indicates that young physicians are at higher risk for burnout compared with experienced physicians, so future research should focus on prevention among less experienced physicians.

6.2 Conclusions

JD-R model is a comprehensive model, which integrates both the perspective of organizational health (reducing job stress and burnout) and the perspective of human resources (increasing job motivation and investment). This model covers a wide range of work and personal characteristics and work variables, and can be widely used in various types of organizations. It includes both a positive motivation process and a negative pressure process. This balanced way is beneficial for this model to be used as an overall guideline to improve employees' job engagement and reduce job burnout in organizations.

The theoretical model constructed in this research starts with the unique working characteristics of medical staff, and confirms the influence of Confucian coping on medical staff's working state, which provides a new theoretical perspective for us to deeply

understand medical staff's job engagement and job burnout, as well as the role of personal cultural and psychological factors in it.

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Bibliography

Adams, J. S. (1963). Toward an understanding of inequity. *Journal of Abnormal & Social Psychology*, *67*, 422-436.

Agarwal, G., Mosquera, M., Ring, M., & Victorson, D. (2019). Work engagement in medical students: An exploratory analysis of the relationship between engagement, burnout, perceived stress, lifestyle factors, and medical student attitudes. *Medical Teacher*,*42*(3), 299-305.

Ali, S., & Farooqi, Y. A. (2014). Effect of work overload on job satisfaction, effect of job satisfaction on employee performance and employee engagement, *International Journal of Multidisciplinary Sciences and Engineering*, *5*(8) 23-30.

Amoafo, E., Hanbali, N., Patel, A., & Singh, P. (2015). What are the significant factors associated with burnout in doctors? *Occupational Medicine*, *65*(2), 117-121.

Andela, M., & van der Doef, M. (2018). A comprehensive assessment of the person–environment fit dimensions and their relationships with work-related outcomes. *Journal of Career Development*, *46*(5), 567-582.

Andrew, O. C., & Sofian, S. (2012). Individual factors and work outcomes of employee engagement. *Procedia - Social and Behavioral Sciences*, *40*(1), 498-508.

Angle, S., & Cua, A. (2001). Moral vision and tradition: Essays in Chinese ethics. *Journal of Asian Studies*, *43*(5), 60-69.

Arshid, M. A., Mumtaz, M., & Nazir, R. (2021). Unforeseen challenges to global health system, in particular context to COVID-19 pandemic and health care personnel. *Arab Journal of Basic and Applied Sciences*, *28*(1), 145-153.

Ashfaq, B., & Hamid, A. (2021). Person-organization fit and organization citizenship behavior: modeling the work engagement as a mediator. *Asia-Pacific Journal of Business Administration*, *13*(1), 19-39.

Auh, S., Menguc, B., Spyropoulou, S., & Wang, F. (2015). Service employee burnout and engagement: the moderating role of power distance orientation. *Journal of the Academy of Marketing Science*, *44*(6), 726-745.

Bacharach, S. B., & Conley, B. S. (2010). Work-home conflict among nurses and engineers: Mediating the impact of role stress on burnout and satisfaction at work. *Journal of Organizational Behavior*, *12*(1), 39-53.

Badanta, B., Gonzalez-Cano-Caballero, M., Suarez-Reina, P., Lucchetti, G., & de Diego-Cordero, R. (2022). How does Confucianism influence health behaviors, health outcomes and medical decisions? A scoping review. *Journal of Religion & Health*, *61*(6), 35-82.

Bagozzi, R. P. (1981). Evaluating structural equation models with unobservable variables and measurement error: Acomment. *Journal of Marketing Research*, *18*(3), 375-381.

Bai, Y., & Zhang, H. (2014). 工作要求和工作资源对工作投入的影响研究 [The impact of job demands and job resources on job engagement]. *Research in Economics and Management*, (10), 66-72.

Bakker, A. B. (2005). The crossover of burnout and work engagement among working couples. *Human Relations*, *58*(5), 661-689.

Bakker, A. B., Demerouti, E., Boer, E. D., & Schaufeli, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior*, *62*(2), 341-356.

Bakker, A. B., Demerouti, E., Taris, T. W., Schaufeli, W. B., & Schreurs, P. J. G. (2003). A

multigroup analysis of the job demands-resources model in four home care organizations. *International Journal of Stress Management*, *10*(1), 16-38.

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: state of the art. *Journal of Managerial Psychology*, *22*(3), 309-328.

Bakker, A. B., & Leiter, M. P. (2010). *Work engagement：A Handbook of essential theory and research*. Psychology Press.

Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2010). Psychometric properties of the Italian version of the Utrecht Work Engagement Scale (UWES-9): A cross-cultural analysis. *European Journal of Psychological Assessment*, *26*(2), 143-149.

Bandura, A., Freeman, W. H., & Lightsey, R. (1999). *Self-efficacy: The exercise of control*. Springer.

Barello, S., Caruso, R., Palamenghi, L., Nania, T., Dellafiore, F., Bonetti, L., Silenzi, A., Marotta, C., & Graffigna, G. (2021). Factors associated with emotional exhaustion in healthcare professionals involved in the COVID-19 pandemic: an application of the job demands-resources model. *International Archives of Occupational and Environmental Health*, *94*(8), 1751-1761.

Barkema, H. G., Chen, X., George, G., Luo, Y., & Tsui, A. S. (2015). West meets east: New concepts and theories. *Academy of Management Journal*, *58*(2), 460-479.

Becker, G. S. (1971). *The economics of discrimination.* University of Chicago Press.

Beehr, T. A. (1985). The role of social support in coping with organizational stress. In T. A. Beehr & R. S. Bhagat (Eds.), *Human stress and cognition in organizations an integrated perspective* (pp. 375–398). Wiley & Sons.

Bennett, M., & Bell, A. (2004). *Leadership and talent in Asia: how the best employers deliver extraordinary performance*. John Wiley & Sons

Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: Care, health, and cost. *Health Affairs*, *27*(3), 759-769.

Beutell, G. N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, *10*(1), 76-88.

Bilgin, N., & Özmen, D. (2022). Mortality in magnet hospitals: A systematic review. *Nigerian Journal of Clinical Practice*, *25*(8), 1203-1210.

Blau, P. M. (1964). *Exchange and power in social life*. Wiley.

Bledow, R., Schmitt, A., Frese, M., & Kühnel, J. (2011). The affective shift model of work engagement. *Journal of Applied Psychology*, *96*(6), 1246-1257.

Bodenheimer, T., & Sinsky, C. (2014). From triple to quadruple aim: care of the patient requires care of the provider. *Annals of Family Medicine*, *12*(6), 573-576.

Boisaubin, E. V., & Levine, R. E. (2001). Identifying and assisting the impaired physician. *The American Journal of the Medical Sciences*, *322*(1), 31-36.

Bono, E. D., & Vuri, D. (2008). Job mobility and the gender wage gap in Italy. *Working Papers - Dipartimento di Economia*, *18*(1), 130-142.

Brand, S. L., Thompson Coon, J., Fleming, L. E., Carroll, L., Bethel, A., & Wyatt, K. (2017). Whole-system approaches to improving the health and wellbeing of healthcare workers: A systematic review. *PLoS One*, *12*(12), 1-26.

Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The Leadership Quarterly*, *24*(1), 270-283.

Brill, P. L. (1984). The need for an operational definition of burnout. *Family & Community Health*, *6*(4), 12-24.

Britt, T. W., Shuffler, M. L., Pegram, R. L., Xoxakos, P., Rosopa, P. J., Hirsh, E., & Jackson, W. (2021). Job demands and resources among healthcare professionals during virus pandemics: A review and examination of fluctuations in mental health strain during

COVID-19. *Applied Psychology*, *70*(1), 120-149.

Broeck, A. V. D., Ruysseveldt, J. V., Smulders, P., & Witte, H. D. (2011). Does an intrinsic work value orientation strengthen the impact of job resources? A perspective from the job demands-resources model. *European Journal of Work & Organizational Psychology*, *20*(5), 581-609.

Bronkhorst, B., Tummers, L., Steijn, B., & Vijverberg, D. (2015). Organizational climate and employee mental health outcomes. *Health Care Management Review*, *40*(3), 254-271.

Brunsberg, K. A., Landrigan, C. P., Garcia, B. M., Petty, C. R., Sectish, T. C., Simpkin, A. L., Spector, N. D., Starmer, A. J., West, D. C., & Calaman, S. (2019). Association of pediatric resident physician depression and burnout with harmful medical errors on inpatient services. *Academic Medicine*, *94*(8), 1150-1156.

Cai, B., Zhou, L., Wang, Y., & Wang, J. (2020). 需要层次理论视角下推进公立医院人力资源高质量发展对策研究 [The research of promoting the high-quality development of human resources in public hospitals under hierarchy of needs theory]. *Chinese Hospitals*, *24*(04), 48-50.

Chang, H., & Dai, M. (2022). 基于"平台-项目-人才"体系的肿瘤专科医院国际交流合作管理模式探索与研究 [Exploration and research on international communication and cooperation management mode of cancer hospitals based on "platform-project-talent" system]. *Journal of Multidisciplinary Cancer Management*, *8*(04), 101-104.

Chang, S., Chen, C., Chao, G., & Liu, Z. (2020). 儒家文化缓解员工工作压力的作用机制研究 [Research on the mechanism of Confucian culture in relieving employees' work stress]. *Foreign Economics & Management*, *42*(05), 105-120.

Chen, B., Zhou, X., & Guo, G. (2019). 资质过剩感知影响员工职业满意度的认知路径 [The cognitive path of employee's career satisfaction influenced by the perception of excessive qualifications]. *Economic Management*, *41*(02), 107-121.

Chen, J. (2018). *Research on the influence of organizational justice on the job engagement of non-clinical service staff in outpatient department* [Master's thesis]. Shanghai Jiao Tong University.

Chen, J., Zhou, L., & Wu, J. (2014). 三级甲等医院临床医师工作投入现状调查 [Job engagement and its determinants among physicians in two public hospitals]. *Chinese Hospital Management*, *34*(3), 54-56.

Chen, S., Ma, J., & Zhu, J. (2014). 高职教师的职业倦怠与心理控制源、应对方式 [Teachers' job burnout, locus of psychological control and coping style in higher vocational colleges]. *Chinese Journal of Mental Health*, *28*(04), 293-297.

Chen, S., Shao, T., Liu, C., Shao, P., Fu, H., Fang, H., & Feng, Z. (2016). 随州市公立医院医生基本医疗保险制度认知研究 [Study on cognition of basic medical insurance system for doctors in Suizhou public hospital]. *Medicine and Society*, *29*(05), 36-38.

Chen, X. P., & Chen, C. C. (2004). On the intricacies of the Chinese Guanxi: A process model of Guanxi development. *Asia Pacific Journal of Management*, *21*(3), 305-324.

Chen, X., Chao, G., Wang, L., Chang, S., & Zhen, M. (2019). 文化复兴背景下中国企业书院的使命研究 [Study on the mission of Chinese enterprise academy under the background of cultural revival]. *Journal of Management*, *16*(07), 977-986.

Cheng, X., Tang, C., & Fang, P. (2021). 我国"十四五"期间医院卫生人力资源发展战略及实现路径探析 [Analysis on the development strategy and realization path of hospital health human resources during the period of the "14th Five-Year Plan" in China]. *Chinese Hospitals*, *25*(05), 10-13.

Chiu, C. Y., & Yang, C. F. (1987). Chinese subjects' dilemmas: Humility and cognitive laziness as problems in using rating scales. *Bull. Hong Kong Psychol. Soc.*, *18*, 39–50.

Chou, P. C., Chao, Y. M. Y., Yang, H. J., Yeh, G. L., & Lee, S. H. (2011). Relationships between stress, coping and depressive symptoms among overseas university preparatory Chinese students: a cross-sectional study. *BMC Public Health*, *11*(1), 352.

Chuang, A., Hsu, R. S., Wang, A., & Judge, T. A. (2015). Does west "fit" with east? In search of a Chinese model of person–environment fit. *Academy of Management Journal*, *58*(2), 480-510.

Chun, C., Moos, R. H., & Cronkite, R. C. (2006). Culture: A fundamental context for the stress and coping paradigm. In P. T. P. Wong & L. C. J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping* (pp.29-53). Springer US.

Chung, Y. S., & Wu, H. L. (2013). Stress, strain, and health outcomes of occupational drivers: An application of the effort reward imbalance model on Taiwanese public transport drivers. *Transportation Research Part F: Traffic Psychology and Behavior*, *19*(4), 97-107.

Collie, R. J., Martin, A. J., Papworth, B., & Ginns, P. (2016). Students' interpersonal relationships, personal best (PB) goals, and academic engagement. *Learning and Individual Differences*, *45*, 65-76.

Corrigan, L., O'Leary, C., Kroes, J., Farooq, A., Horgan, A., Calvert, P., & O'Connor, M. (2020). Professional burnout, work patterns and career satisfaction in medical oncologists in Ireland. *Irish Journal of Medical Science*, *189*(2), 711-718.

Cropanzano, R., Rupp, D. E., Mohler, C. J., & Schminke, M. (2001). Three roads to organizational justice. *Research in Personnel & Human Resources Management*, *20*, 1-113.

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*(6), 874-900.

Daderman, A. M., & Basinska, B. A. (2016). *The work-family interface: Job demands, work engagement and turnover intentions of Polish nurses.* Editorial Board of the Scientific Report Series at University West.

DeChant, P. F., Acs, A., Rhee, K. B., Boulanger, T. S., Snowdon, J. L., Tutty, M. A., Sinsky, C. A., & Thomas Craig, K. J. (2019). Effect of organization-directed workplace interventions on physician burnout: A systematic review. *Mayo Clinic Proceedings: Innovations, Quality & Outcomes*, *3*(4), 384-408.

Deci, E. L., & Ryan, R. M. (2012). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (pp. 85-108). Oxford Academic.

Deepa, S. (2020). The effects of organizational justice dimensions on facets of job engagement. *International Journal of Organization Theory and Behavior*, *23*(4), 315-336.

Del Carmen, M. G., Herman, J., Rao, S., Hidrue, M. K., Ting, D., Lehrhoff, S. R., Lenz, S., Heffernan, J., & Ferris, T. G. (2019). Trends and factors associated with physician burnout at a multispecialty academic faculty practice organization. *JAMA Network Open*, *2*(3), 1-10.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499-512.

Demerouti, E., Bakker, A. B., Vardakou, I., & Aristotelis, K. (2003). The convergent validity of two burnout instruments. *European Journal of Psychological Assessment*, *19*(1), 12-23.

Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: a thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology*, *15*(3), 209-222.

Demerouti, E., & Bakker, A. B. (2011). The Job demands–resources model: Challenges for future research. *SA Journal of Industrial Psychology*, *37*(2), 1-9.

Dimou, F. M., Eckelbarger, D., & Riall, T. S. (2016). Surgeon burnout: A systematic review.

Journal of The American College of Surgeons, *222*(6), 1230-1239.

Dobrin, & Arthur. (2001). The Self and Confucianism. *Chinese American Forum*, *17*(2), 33.

Duan, S., Ji, Z., & Cao, Z. (2016). 护理人员组织公平感对工作投入的影响研究 [Study on the influence of nurses' sense of organizational justice on job engagement]. *Management Observer*, (13), 124-127.

Dyrbye, L. N., Shanafelt, T. D., Balch, C. M., Satele, D., & Freischlag, J. (2010). Physicians married or partnered to physicians: A comparative study in the American college of surgeons. *Journal of The American College of Surgeons*, *211*(5), 663-671.

Dyrbye, L. N., Varkey, P., Boone, S. L., Satele, D. V., Sloan, J. A., & Shanafelt, T. D. (2013). Physician satisfaction and burnout at different career stages. *Mayo Clinic Proceedings*, *88*(12), 1358-1367.

Dzau, V. J., Kirch, D. G., & Nasca, T. J. (2018). To care is human — Collectively confronting the clinician-burnout crisis. *The New England journal of medicine*, *378*(4), 312-314.

Dzau, V. J., Kirch, D., & Nasca, T. (2020). Preventing a parallel pandemic — A national strategy to protect clinicians' well-being. *The New England journal of medicine*, *383*(6), 513-515.

Edwards, J. R. (1991). Person-Job fit: A conceptual integration, literature review and methodological critique. In C. L. Cooper, & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 283-357). Wiley.

Engelbrecht, G. J., Beer, L., & Schaufeli, W. B. (2020). The relationships between work intensity, workaholism, burnout, and self-reported musculoskeletal complaints. *Human Factors and Ergonomics in Manufacturing & Service Industries*, *30*(5),1-12.

Erben, G. S., & Guneser, A. B. (2008). The relationship between paternalistic leadership and organizational commitment: Investigating the role of climate regarding ethics. *Journal of Business Ethics*, *82*, 955-968.

Fang, H., Zhao, X., Ya Ng, H., Sun, P., Li, Y., Jiang, K., Li, P., Jiao, M., Liu, M., & Qiao, H. (2019). Depressive symptoms and workplace-violence-related risk factors among otorhinolaryngology nurses and physicians in northern China: a cross-sectional study. *BMJ Open 2018*, *8*(1), 1-9.

Farh, J., Leung, K., & Tse, D. K. (1995). Managing human resources in Hong Kong: 1997 and beyond. *Columbia Journal of World Business*, *30*(2), 52-59.

Fein, E. C., & Skinner, N. (2015). Clarifying the effect of work hours on health through work–life conflict. *Asia Pacific Journal of Human Resources*, *53*(4), 448-470.

Feng, L., Li, J., Liu, Y., Sun, Q., Guan, J., Lu, W., Han, H., & Dou, L. (2020). 调动公立医院医务人员工作积极性国家层面政策分析 [Analysis on The National Policy of Arousing The Enthusiasm of Medical Staff in Public Hospitals]. *Chinese Hospital Management*, *40*(05), 40-43.

Forootan, F. (2012). *The role of perceived organizational support and career opportunities as moderators of the relationship between work engagement and job satisfaction* [Master's thesis]. San Jose State University.

Freudenberger, H. J. (1974). Staff burnout. *Journal of Social Issues*, *30*(1), 159-165.

Fuller, J. B., Hester, K., Barnett, T., Frey, L., & Beu, D. (2006). Perceived external prestige and internal respect: New insights into the organizational identification process. *Human Relations*, *59*(6), 815-846.

Gao, H. (2018). 对三甲医院编外人员工作管理中的思考 [Thinking on the management of the constract staff in a third Class hospital]. *Management Observer*, (34), 180-182.

Garrosa, E., Ladstätter, F., Moreno, B., Gan, Y., & Carmona, I. (2014). The experience of work engagement, hardy personality, optimism and subjective well-being among nurses from China and Spain. *Open Journal of Social Sciences*, *2*(2), 106-109.

Gashi, D., Gallopeni, F., Imeri, G., Shahini, M., & Bahtiri, S. (2022). The relationship between big five personality traits, coping strategies, and emotional problems through the COVID-19 pandemic. *Current Psychology*, 1-10.

Gillet, N., Fouquereau, E., Bonnaud-Antignac, A., Mokounkolo, R., & Colombat, P. (2013). The mediating role of organizational justice in the relationship between transformational leadership and nurses' quality of work life: A cross-sectional questionnaire survey. *International Journal of Nursing Studies*, *50*(10), 1359-1367.

Glasheen, J. J. (2011). Career Satisfaction and Burnout in Academic Hospital Medicine. *Archives of Internal Medicine*, *171*(8), 782.

González-Romá, V., Schaufeli, W., & Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, *68*, 165-174.

Goode, C. J., Blegen, M. A., Park, S. H., Vaughn, T., & Spetz, J. (2011). Comparison of Patient Outcomes in Magnet and Non-Magnet Hospitals. *JONA: The Journal of Nursing Administration*, *41*(12), 517-523.

Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. *Journal of Management*, *16*(2), 399-432.

Griep, R. H., Rotenberg, L., Fonseca, M., Vasconcellos-Silva, P., & Landsbergis, P. (2009, April 30). *Effort-reward imbalance and absenteeism among nursing personnel in Brazil*. The 12th World Congress on Public Health, Istanbul, Turkey.

Grover, S. L., Teo, S. T. T., Pick, D., & Roche, M. (2017). Mindfulness as a personal resource to reduce work stress in the job demands-resources model. *Stress and Health*, *33*(4), 426-436.

Grzywacz, J. G., Frone, M. R., Brewer, C. S., & Kovner, C. T. (2006). Quantifying work–family conflict among registered nurses. *Research in Nursing & Health*, *29*(5), 414-426.

Gulati, K., & Khera, S. N. (2012). Job satisfaction A ray of sunshine even in burnout times Perceptual analysis of IT organizations. *International Journal of Management & Information Technology*, *1*(3),12-25.

Guo, S., & Liu, L. (2018). 试论儒家伦理的精神性内涵及其心理健康价值 [On the spiritual connotation and mental health value of Confucian ethics]. *Psychology of Religion*, (4), 33-49.

Gupta, Vishal, Kumar, & Sushil. (2013). Impact of performance appraisal justice on employee engagement: A study of Indian professionals. *Employee Relations*, *35*(1/2),61-78.

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: test of a theory. *Organizational Behavior and Human Performance, 16*(2), 250–279.

Hackman, J. R., & Oldham, G. R. (1980). *Work Redesign*. Reading, Addison-Wesley.

Haghani, M., Bahrami, P., & Sarkhosh, S. (2012). The relationship among organizational culture and occupational burnout in personnel of TVTO organization, Arak City. *Journal of Educational and Management Studies*, *2*(4), 89-96.

Hakanen, J. J., & Roodt, G. (2010). Using the job demands-resources model to predict engagement: Analyzing a conceptual model. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement：A Handbook of essential theory and research* (pp. 85-101). Psychology Press.

Halbesleben, J. R. B., & Demerouti, E. (2005). The construct validity of an alternative measure of burnout: Investigating the English translation of the Oldenburg Burnout Inventory. *Work & Stress: An International Journal of Work, Health & Organizations*, *19*(3), 208-220.

Halpern, J. (2012). Gathering the patient's story and clinical empathy. *The Permanente journal*, *16*(1), 52-54.

Harms, P. D., Credé, M., Tynan, M., Leon, M., & Jeung, W. (2017). Leadership and stress: A

meta-analytic review. *The Leadership Quarterly*, *28*(1), 178-194.

He, Y., Hou, A., & Cao, M. (2011). 组织气氛对护士工作投入的影响 [Influence of organizational climate on work engagement of nurses]. *Chinese Journal of Nursing*, *46*(05), 436-439.

He, Y., Lai, J., Deng, X., Liu, P., Tan, Z., Zheng, Y., Liang, X., & Xie, P. (2021). 急诊科护士感知组织气氛与工作投入的相关性研究 [The correlation between nurses' perceived organizational climate and job engagement in emergency department]. *Modern Nurse*, *28*(09), 23-26.

Heidinger, R., Cirant, S., Chavan, R., Baar, M. D., & Zohm, H. (2011, June 26-30). *Increasing the probability of finding an interaction in work stress research: A two-wave longitudinal test of the triple-match principle*. The 38th IEEE International Conference on Plasma Science (ICOPS), Chicago, IL, USA.

Henseler, J. R., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of The Academy of Marketing Science*, *43*(1), 115-135.

Hertzberg, T. K., Ro, K. I., Vaglum, P., Moum, T., Rovik, J. O., Gude, T., Ekeberg, O., & Tyssen, R. (2016). Work-home interface stress: an important predictor of emotional exhaustion 15 years into a medical career. *Industrial Health*, *54*(2), 139-148.

Herzberg, F., Mausner, B., & Snyderman, B. B. (1993). *The motivation to work*. Transaction Publishers.

Hirschi, A. (2011). Callings in career: A typological approach to essential and optional components. *Journal of Vocational Behavior*, *79*(1), 60-73.

Hirschman, A. O., & Rothschild, M. (1973). The changing tolerance for income inequality in the course of economic development. *The Quarterly Journal of Economics*, *87*(4), 544-566.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, *6*(4), 307-324.

Hobfoll, S. E., & Shirom, A. (2001). Conservation of resources theory: Applications to stress and management in the workplace. *Public Policy and Administration*, *87*, 57-80.

Horn, D. J., & Johnston, C. B. (2020). Burnout and self-care for palliative care practitioners. *The Medical clinics of North America*, *104*(3), 561-572.

Hou, S., Wang, H., & Zhang, L. (2014). 中美高等医学院校医患沟通课程比较分析 [Comparative analysis of doctor-patient communication courses in Chinese and American medical colleges]. *Chinese Hospitals*, *18*(10), 33-35.

Hsu, W. Y., Chen, M. C., Wang, T. H., & Sun, S. H. (2008). Coping strategies in Chinese social context. *Blackwell Publishing Asia*, *11*(2), 150-162.

Hu, Y., Liu, Y., Li, N., Yang, Y., & Wang, W. (2021). 中小学教师品格优势对工作投入的影响：职业使命感的中介作用 [The influence of primary and secondary school teachers' character advantage on job engagement: the mediating role of professional mission sense]. *Contemporary Education Sciences*, (09), 80-87.

Huang, D. D., & Charter, R. A. (1996). The origin and formulation of Chinese character: an introduction to Confucianism and its influence on Chinese behavior patterns. *Cultural Diversity & Mental Health*, *2*(1), 35.

Huang, J., Bao, X., You, X., & Zhou, L. (2010). 个体资源对JD-R模型与工作倦怠关系的中介作用 [The mediating effect of individual resources on the relationship between JD-R Model and job burnout]. *Journal of Psychological Science*, *33*(04), 963-965.

Huyghebaert, T., Gillet, N., Audusseau, O., & Fouquereau, E. (2019). Perceived career opportunities, commitment to the supervisor, social isolation: Their effects on nurses' well-being and turnover. *Journal of Nursing Management*, *27*(1), 207-214.

Inoue, A., Kawakami, N., Ishizaki, M., Shimazu, A., Tsuchiya, M., Tabata, M., Akiyama, M., Kitazume, A., & Kuroda, M. (2010). Organizational justice, psychological distress, and work engagement in Japanese workers. *International Archives of Occupational & Environmental Health*, *83*(1), 29-38.

Inoue, A., Kawakami, N., Tsuno, K., Shimazu, A., Tomioka, K., & Nakanishi, M. (2013). Job demands, job resources, and work engagement of Japanese employees: a prospective cohort study. International Archives of Occupational and Environmental Health, *86*(4), 441-449.

Jang, H., Kim, E. J., & Reeve, J. (2012). Longitudinal test of self-determination theory's motivation mediation model in a naturally occurring classroom context. *Journal of Educational Psychology*, *104*(4), 1175.

Jenkins, R., & Elliott, P. (2010). Stressors, burnout and social support: nurses in acute mental health settings. *Journal of Advanced Nursing*, *48*(6), 622-631.

Ji, L. (2013). *Research on the influence of organizational justice perception of labor dispatch workers on Employee voice behavior* [Doctoral dissertation]. Jilin University.

Jia, Y. (2022). 临床医师评价研究的现状分析及思考 [Current situation analysis and thinking of clinical physician evaluation]. *China Health Human Resources*, (06), 56-59.

Jian, L., & Angerer, P. (2014). Work-Family conflict and worker wellbeing in China. In: Dollard, M., Shimazu, A., Bin Nordin, R., Brough, P., Tuckey, M. (Ed.), *Psychosocial Factors at Work in the Asia Pacific* (pp. 309-321). Springer, Dordrecht.

Jiang, J., Li, X., Lin, D., & Wang, F. (2010). 证券从业人员工作要求、工作资源与工作投入的关系 [The relationship between job demands, job resources and job engagement of securities practitioners]. *Chinese Journal of Clinical Psychology*, *18*(01), 122-124.

Jiang, L. (2017). 临床医生科研现状调研报告 [Survey report on the status quo of scientific research work of clinic physicians]. *The Silk Road Vision*, (22), 2.

Jiang, M. (2019). 建立符合行业特点的公立医院薪酬制度的思考 [Consideration on the establishment of salary system of public hospital in line with industry characteristics]. *Health Economics Research*, *36*(05), 3-5.

Jiang, S. (2019). *Influencing factors and coping strategies of job burnout of medical staff in public hospitals* [Master's thesis]. Jiangsu University.

Jiang, S., Wang, W., Tian, H., Yang, X., & Yang, Y. (2020). 不同职业类别医务人员职业倦怠差异研究 [The difference of job burnout among medical staff in different occupational categories]. *Chinese Hospital*, *24*(08), 34-37.

Jiang, X. (2018). *Measurement of college English teachers' job burnout and construction of attribution model from the perspective of Job demands - resource theory* [Doctoral dissertation]. Shanghai International Studies University.

Jiang, Y., & Yu, J. (2021). 人格特质对基层公务员职业倦怠的影响研究 [Influence of personal traits on job burnout of grass-root civil servants]. *Journal of Shanxi Institute of Economic Management*, *29*(01), 18-24.

Jiao, M., Ning, N., Li, Y., Gao, L., Cui, Y., Sun, H., Kang, Z., Liang, L., Wu, Q., & Hao, Y. (2015). Workplace violence against nurses in Chinese hospitals: a cross-sectional survey. *BMJ Open*, *5*(3), 1-9.

Jing, H. (2006). 儒家式应对思想及其对心理健康的影响 [Confucian coping strategy and its influence on mental health]. *Acta Psychologica Sinica*, (01), 126-134.

Jingyun, D., Jiayi, S., & Bin, L. (2017). The influence of high commitment organization on employee voice behavior: A dual-process model examination. *Acta Psychologica Sinica*, *49*(04), 539-553.

John D Kelly, I. V. (2018). The problem: prevalence of burnout and depression. In John D. Kelly IV (Ed.), *The Resilient Physician: A Pocket Guide to Stress Management* (pp. 1-4).

Springer Cham.

Johnston, K., Tyson, C., Danny, I., & Meyer, L. (2021). Impact of the COVID-19 pandemic on the career of junior doctors. *The Medical Journal of Australia*, *214*(7), 295.

Jordan, J. S., & Turner, B. A. (2008). The feasibility of single-item measures for organizational justice. *Measurement in Physical Education & Exercise Science*, *12*(4), 237-257.

Jovica, J., Konstantinos, L., & Violeta, S. (2006). Theoretical approaches to problem of occupational stress. *Acta Facultatis Medicae Naissensis*, (3), 163-169.

Kadim, J., Sabti, Y., Ali, G., Abbas, Y., & Shliot, S. (2021). The effect of applying organizational justice on job burnout (An applied study in the municipality of Samawah). *South Asian Journal of Social Sciences and Humanities*, *02*, 135-155.

Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *The Academy of Management Journal*, *33*(4), 692-724.

Kaiser, S., Patras, J., Adolfsen, F., Richardsen, A. M., & Martinussen, M. (2020). Using the Job Demands–Resources Model to evaluate work-related outcomes among Norwegian health care workers. *SAGE Open*, *10*(3), 1-11.

Karasek, R. A., & Theorell, T. (1990). *Healthy work: stress, productivity, and the reconstruction of working life.* Basic Book.

Karasek, R. (1979). Job decision latitude, job demands and mental strain: Implications for job redesign. *Administrative Science Quarterly*, (24), 285-308.

Karatepe, O. M., Yavas, U., Babakus, E., & Deitz, G. D. (2018). The effects of organizational and personal resources on stress, engagement, and job outcomes. *International Journal of Hospitality Management*, *74*(8), 147-161.

Keohane, L. M. (2020). Expanding ventilator capacity—The need for state and regional planning. *JAMA Health Forum*, *1*(4), 1-3.

Khan, M. T. (2021). Exploring the work engagement as mediator in finding impact of job insecurity on job performance. *The Journal of Academic Social Sciences*, *5*(1), 85-97.

Kilroy, S., Flood, P. C., Bosak, J., & Chenevert, D. (2016). Perceptions of high-involvement work practices and burnout: the mediating role of job demands. *Human Resource Management Journal*, *26*(4), 408-424.

Kokkinos, C. M. (2010). Factor structure and psychometric properties of the Maslach Burnout Inventory-Educators Survey among elementary and secondary school teachers in Cyprus. *Stress & Health*, *22*(1), 25-33.

Kong, L. M., Guo, W., Zhang, L. Y., Yao, G. F., & Chen, C. X. (2012). Relationship between psychosomatic health and both maladjustment and job burnout in military personnel. *Medical Journal of Chinese People's Liberation Army*, *37*(7), 741-744.

Konstantinou, A. K., Bonotis, K., Maria, S., Vasileios, S., & Dardiotis, E. (2018). Burnout evaluation and potential predictors in a Greek cohort of mental health nurses. *Archives of Psychiatric Nursing*, *32*(3), 449-456.

Kraimer, M. L., Seibert, S. E., Wayne, S. J., Liden, R. C., & Bravo, J. (2011). Antecedents and outcomes of organizational support for development: the critical role of career opportunities. *Journal of Applied Psychology*, *96*(3), 485-500.

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work and Stress*, *19*(3), 192-207.

Kristof, A. L. (1996). Person-organization fit: an integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, *49*(1), 1-49.

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individual's fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, *58*(2), 281-342.

Kristof-Brown, A., & Guay, R. P. (2011). Person-environment fit. In Triandis, Harry C./ Dunnette, Marvin D. (Eds.), *APA handbook of industrial and organizational psychology, Vol 3: Maintaining, expanding, and contracting the organization* (pp.3-50). American Psychological Association.

Kumar, S. (2016). Burnout and doctors: Prevalence, prevention and intervention. *Healthcare*, *4*(3), 37.

Kurtz, S. M., & Silverman, J. D. (1996). The Calgary—Cambridge Referenced Observation Guides: an aid to defining the curriculum and organizing the teaching in communication training programmes. *Medical Education*, *30*(2), 83-89.

Lammers, J., & Diederik A, S. (2009). How power influences moral thinking. *Journal of Personality and Social Psychology*, *97*(2), 279-289.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.

Lazarus, R. (1993). Coping theory and research: past, present, and future. *Psychosomatic Medicine*, *55*(3), 234-247.

Lee, A., Kim, H., Faulkner, M., Gerstenblatt, P., & Travis, D. J. (2019). Work engagement among child-care providers: An application of the job demands–resources model. *Child & Youth Care Forun*, *48*(1), 77-91.

Lee, R., & Ashforth, B. E. (1993). A further examination of managerial burnout: Toward an integrated model. *Journal of Organizational Behavior*, *14*(1), 3-20.

Leiter, M. P., & Stright, N. (2009). The social context of work life: Implications for burnout and work engagement. In Cary L. Cooper, James Campbell Quick, Marc J. Schabracq (Eds.), *International Handbook of Work and Health Psychology* (pp.25-47). Wiley.

Lesener, T., Gusy, B., & Wolter, C. (2018). The job demands-resources model: A meta-analytic review of longitudinal studies. *Work & Stress*, *33*(1), 76-103.

Lewin, K. (1939). Field theory and experiment in social psychology: Concepts and methods. *American Journal of Sociology*, *44*(6), 868-896.

Li, C., & You, X. (2020). 急诊科护士遭遇医疗暴力与职业紧张及职业倦怠感的相关性 [Association between medical violence, occupational stress and job burnout among emergency department nurses]. *Occupation and Health*, *36*(17), 2313-2316.

Li, H., Li, D., Wang, J., Zhao, P., Zou, Y., Yao, H., & Zuo, H. (2016). SEGUE量表评价医学生的医患沟通能力 [SEGUE scale evaluated the doctor-patient communication ability of medical students]. *Hospital Management Forum*, *33*(01), 29-30.

Li, S., & Gong, C. (2022). 高校教师工作资源对离职意向的影响：工作投入的中介作用 [The influence of job resources on turnover intention of college teachers: the mediating role of job engagement]. *Journal of Taiyuan City Vocational and Technical College*, (04), 88-91.

Li, T., & Hou, Y. (2012). 儒家式应对的心理结构及其验证 [The psychological structure of Confucian coping and its verification]. *Journal of Educational Science of Hunan Normal University*, *11*(03), 11-18.

Li, X. (2008). 职业分割、性别歧视与工资差距 [Occupational segregation, gender discrimination and wage gap]. *Finance & Economics*, (02), 88-96.

Liang, S. (2010). 大学生对传统价值观的认同与其人格的关系研究 [The relationship between college students' identification of traditional values and their personality]. *Journal of Jiujiang Vocational and Technical College*, (03), 67-68.

Lien, S. S., Kosik, R. O., Fan, A. P., Huang, L., Zhao, X., Chang, X., Wang, Y., & Chen, Q. (2016). 10-year trends in the production and attrition of Chinese medical graduates: an analysis of nationwide data. *The Lancet*, *388*(1), 11.

Lin, L., Ho, Y., & Lin, W. E. (2013). Confucian and Taoist work values: An exploratory

study of the Chinese transformational leadership behavior. *Journal of Business Ethics*, *113*(1), 91-103.

Lin, P., Zhang, Z., & Chen, Z. (2014). 浙江省某医院护士家庭关怀对其工作投入的影响 [Influence of family care of nurses in a hospital in Zhejiang province on their job engagement]. *Medicine and Society*, *27*(05), 80-82.

Lin, Y. (2020). 基于心理契约视角的高校编制外用工管理研究 [Research on the management of foreign workers in colleges and universities from the perspective of psychological contract]. *Journal of Jinzhou Medical University (Social Science Edition)*, *18*(03), 70-72.

Ling, L., & Hu, S. (2016). 某三甲医院聘用护士离职原因分析 [Analysis of causes on employed nurses' dimission in a top tertiary hospital]. *Hospital Administration Journal of Chinese*, *23*(07), 677-678.

Linos, E., Lasky-Fink, J., Halley, M., Sarkar, U., Mangurian, C., Sabry, H., Linos, E., & Jagsi, R. (2022). Impact of sexual harassment and social support on burnout in physician mothers. *Journal of Women's Health*, *31*(7), 932-940.

Liselotte N, D., Karim M, A., Lynne C, F., Christine A, S., & Tait D, S. (2019). Estimating the attributable cost of physician burnout in the United States. *Annals of Internal Medicine*, *171*(8), 600-601.

Litvak, P. W. X. L. (2008). Alcohol abuse/dependence symptoms among hospital employees exposed to a SARS outbreak. *Alcohol and Alcoholism*, *43*(6), 706-712.

Liu, C., Kong, D., Jin, H., Chen, X., & Zhu, Y. (2014). 三级甲等医院护士组织公平感和组织认同对工作投入的影响 [Influence of nurses' sense of organizational justice and organizational identity on job engagement in tertiary hospitals]. *Chinese Journal of Nursing*, *49*(09), 1049-1053.

Liu, D. (2015). 挑战性-阻碍性压力源、角色超载和情绪枯竭的关系:心理弹性的调节作用 [The relationship between challenge-hindrance stressor, role overload and exhaustion: the moderating role of resilience]. *Studies of Psychology and Behavior*, *13*(01), 115-124.

Liu, L., & Wu, L. (2005). "工作价值观职务特征"匹配对工作倦怠的影响研究 [The relationship between person-job fit and job burnout]. *Chinese Journal of Applied Psychology*, (01), 33-40.

Liu, Q., Luo, D., Haase, J. E., Guo, Q., Wang, X. Q., Liu, S., Xia, L., Liu, Z., Yang, J., & Yang, B. X. (2020). The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. *The Lancet global health*, *8*(6), 790-798.

Liu, T., & Yang, H. (2019). 组织公平、劳动关系氛围与倦怠感对员工工作绩效的影响:一个有调节的中介模型 [The impact of labor relation condition and organizational justice on employees job performance: A model of moderated mediator]. *Journal of Guizhou University of Finance and Economics*, (05), 44-53.

Liu, X. (2021). *Research on the career development of women in public hospitals in Korla, China* [Master's thesis]. Xinjiang University.

Loher, B. T., Noe, R. A., Moeller, N. L., & Fitzgerald, M. P. (1985). A meta-analysis of the relation of job characteristics to job satisfaction. *Journal of Applied Psychology*, *70*(2), 280-289.

Long, J., & Chen, D. (2015). 知识型团队专业技能认知一致性对创新的影响 [The impact of cognitive consistency of professional skills on innovation in knowledge-based teams]. *Scientific Research Management*, *36*(08), 68-76.

Lu, F. (2018). *An empirical study on the impact of the career calling on the paediatrician job engagement* [Master's thesis]. Shanghai Jiao Tong University.

Lu, L., Gilmour, R., & Kao, S. F. (2001). Cultural values and happiness: An east-west dialogue. *Journal of Social Psychology*, *141*(4), 477-493.

Lu, L., Lin, H. Y., Lu, C., & Siu, O. (2015). The moderating role of intrinsic work value orientation on the dual-process of job demands and resources among Chinese employees. *International Journal of Workplace Health Management*, *8*(2), 78-91.

Luksyte, A., & Spitzmueller, C. (2016). When are overqualified employees creative? It depends on contextual factors. *Journal of Organizational Behavior*, 37(5), 635-653.

Luo, J. (2020). *Research on the relationship among nurses' practice environment, work engagement and job burnout based on the job demands-resources model* [Master's thesis]. Nanchang University.

Luo, J., & Liao, J. (2007). 企业员工工作投入研究综述 [A review on employees' job engagement in enterprises]. *Foreign Economics & Management*, (05), 40-46.

Luo, L., Ye, Z., Xue, H., Wang, Y., & Yu, C. (2022). 构建新型人力资源管理体系，促进公立医院高质量发展 [Constructing a new human resource management system to promote high-quality development of public hospitals]. *Chinese Journal of Evidence-Based Medicine*, *22*(05), 585-589.

Luo, M., Huang, X., & Su, D. (2010). 儒家文化对当前中国心理健康服务实践的影响 [The influence of Confucian culture on current mental health service practice in China]. *Advances in Psychological Science*, *18*(009), 1481-1488.

Luthans, F., Norman, S. M., Avolio, B. J., & Avey, J. B. (2008). The mediating role of psychological capital in the supportive organizational climate—employee performance relationship. *Journal of Organizational Behavior*, *29*(2), 219-238.

Ma, H., Qiao, H., Qu, H., Wang, H., Huang, Y., Cheng, H., Teng, C., Zhang, X., & Zhang, N. (2019). Role stress, social support and occupational burnout among physicians in China: a path analysis approach. *International Health*, *3*(3), 1-7.

Ma, Q., Feng, T., Xin, J., & Su, J. (2016). 护士情绪智力、积极情绪与工作投入的关系研究 [The Relationship between emotional intelligence, positive emotion and job engagement of nurses]. *Chinese Nursing Research*, *30*(01), 120-121.

Ma, T., Li, J., Wang, J., Zhang, L., & Chen, H. (2018). 吉林省医务人员感知医患关系、工作投入与工作满意度的关系 [Relationship between perceived doctor-patient relationship, job engagement and job satisfaction of medical staff in Jilin province]. *Medicine and Society*, *31*(03), 62-65.

Ma, X., Yu, X., Wang, H., Wang, B., An, M., Liu, J., Mi, F., Xu, S., Sun, Y., Yang, W., Yang, Q., Yang, J., Wu, S., Wu, Z., He, J., Song, L., Zhang, Y., Zhao, N., Zhao, Y., Nan, C., Duan, D., Qin, G., Nie, C., Chang, J., & Jiao, Y. (2019). *中国卫生健康统计年鉴2019* [China healthcare statistics yearbook 2021]. China Union Medical College Press.

Ma, X., Yu, X., Wang, H., Wang, B., An, M., Liu, J., Mi, F., Xu, S., Sun, Y., Yang, W., Yang, Q., Yang, J., Wu, S., Wu, Z., He, J., Song, L., Zhang, Y., Zhao, N., Zhao, Y., Nan, C., Duan, D., Qin, G., Nie, C., Chang, J., & Jiao, Y. (2021). *中国卫生健康统计年鉴2021* [China healthcare statistics yearbook 2021]. China Union Medical College Press.

Mak, A., Cheung, L., Mak, A., & Leung, L. (2009). Confucian thinking and the implications for sustainability in HRM. *Asia-Pacific Journal of Business Administration,6*(3), 173-189.

Malach-Pines, Ayala. (2005). The burnout measure, short version. *International Journal of Stress Management*, *12*(1), 78-88.

Manish, Gupta, Musarrat, & Shaheen. (2018) Does work engagement enhance general well-being and control at work? Mediating role of psychological capital. *Evidence-based HRM*, *6*(3), 272-286.

Marco, C. A., Larkin, G. L., Feeser, V. R., Monti, J. E., & Vearrier, L. (2020). Post-traumatic stress and stress disorders during the COVID pandemic: Survey of emergency physicians. *Journal of the American College of Emergency Physicians Open*, *1*(6), 1594-1601.

Marjanovic, Z., Gr Ee Nglass, E. R., & Coffey, S. (2007). The relevance of psychosocial

variables and working conditions in predicting nurses' coping strategies during the SARS crisis: an online questionnaire survey. *International Journal of Nursing Studies*, *44*(6), 991-998.

Maslach, C. J., Jackson, S. E., Leiter, M. P., & Congress, Y. P. C. L. (1996). The Maslach burnout inventory-test manual. In C. P. Zalaquett, R. J. Wood (Eds.), *Evaluating stress: A book of resources* (pp.191-218). The Scarecrow Press.

Maslach, C. (1976). Burned-out. *Human Behavior*, *5*, 16-22.

Maslach, C. (1993). Burnout: A multidimensional perspective. In Wilmar Schaufeli, Christina Maslach, Tadeusz Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp.19-32). Taylor & Francis.

Maslach, C. (2011). Engagement research: Some thoughts from a burnout perspective. *European Journal of Work and Organizational Psychology*, *20*(1), 47-52.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397-422.

Maslach, C., & Goldberg, J. (1998). Prevention of burnout: new perspectives. *Applied and Preventive Psychology*, *7*(1), 63-74.

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99-113.

Maslach, C., & Leiter, M. P. (1997). The truth about burnout: How organizations cause personal stress and what to do about it. *Psychiatric Rehabilitation Journal*, *23*(2), 194.

Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology*, *93*(3), 498-512.

Maslach, C., & Leiter, M. (1997). *The truth about burnout*. Jossey-Bass.

Masterson, S., Lewis, K., Goldman, B., & Susan, M. (2000). Integrating justice and social exchange: The differing effects of fair procedures and treatment on work relationships. *Academy of Management Journal*, *43*, 738-748.

Meijman, T. F. (1998). Psychological aspects of workload. In P. J. D. Drenth, H. Thierry, & C. J. de Wolff (Eds.), *New handbook of work and organizational psychology: volume 2: work psychology* (pp. 5-34). Psychology Press.

Meng, Q. (2021). 治理现代化视角下基层政府编外人员的现实困境与激励对策 [Realistic dilemma and incentive countermeasures of non-staff personnel in grass-roots government from the perspective of governance modernization]. *Leadership Science*, (22), 81-84.

Meng, X., Chai, P., & Huang, Z. (2020). 工作价值观、组织公平与离职倾向及其代际差异 [A research on the relationship among work values, organizational justice and turnover intentions and their intergenerational differences]. *Science Research Management*, *41*(06), 219-227.

Merisalu, E. M., Viin, V., Geva, J., & Orru. (2013). Relations between work environment factors, burnout and health of the military personnel. *Occupational & Environmental Medicine*, *70*(1), A50-A51.

Millsmills, L. B., & Huebnerhuebner, E. S. (1998). A prospective study of personality characteristics, occupational stressors, and burnout among school psychology practitioners. *Journal of School Psychology*, *36*(1), 103-120.

Mollahadi., M., Khoshnevis., M. A., & Salaree., M. M. (2020). The effect of matching between job and occupation on job burnout and quality of life in employees of a military organization. *Military Caring Sciences*, *7*(2), 117-126.

Montgomery, A., Panagopoulou, E., Kehoe, I., & Valkanos, E. (2011). Connecting organizational culture and quality of care in the hospital: is job burnout the missing link? *Journal of Health Organization & Management*, *25*(1), 108.

Morgantini, L. A., Naha, U., Wang, H., Francavilla, S., & Weine, S. M. (2020). Factors contributing to healthcare professional burnout during the COVID-19 pandemic: A rapid

turnaround global survey. *Social Science Electronic Publishing*, *15*, 1-17.

Morris, J. A., & Feldman, D. C. (1996). The dimensions, antecedents, and consequences of emotional labor. *Academy of Management Review*, *21*(4), 986-1010.

Moyer, F., Aziz, S., & Wuensch, K. (2008). From workaholism to burnout: psychological capital as a mediator. *International Journal of Workplace Health Management*, *10*(3), 213-227.

Mrayyan, M. T., Al-Rawashdeh, S., & Al-Omari, H. (2021). Nurses' job stressors and social support behaviors: Comparing public, teaching, and private hospitals. *Nursing Forum, 56*(1), 74-82.

Muqadas, F., Rehman, C. A., & Aslam, U. (2017). Organizational justice and employee's job dissatisfaction: A moderating role of psychological empowerment, *Pakistan Business Review*, *18*, 848-864.

Nasiripoor, A. A., Mehrolhassani, M. S., & Gorji, A. (2008). Correlation between organization's culture and the implication of six sigma in teaching hospitals affiliated with Kerman university of medical sciences (KUMS). *Journal of Health Administration, 11*(32), 33-40.

Nguyen, J., Liu, A., McKenney, M., Liu, H., Ang, D., & Elkbuli, A. (2021). Impacts and challenges of the COVID-19 pandemic on emergency medicine physicians in the United States. *The American Journal of Emergency Medicine*, *48*, 38-47.

Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: replicated factors structure in peer nomination personality ratings. *Journal of Abnormal & Social Psychology*, *66*, 574-583.

Ole, R. J., Reidar, T., Erlend, H., Tore, G., Ivind, E., Torbj Rn, M., & Per, V. (2007). Job stress in young physicians with an emphasis on the work-home interface: a nine-year, nationwide and longitudinal study of its course and predictors. *Industrial Health*, *45*(5), 662-671.

Ongena, Y. P., & Dijkstra, W. (2010). A model of cognitive processes and conversational principles in survey interview interaction. *Applied Cognitive Psychology*, *21*(2), 145-163.

Osei, A. M., Jinliang, Q., Abdul, Q., Opoku, A. C., Yasin, J., & Emmanuel, A. (2018). Teacher burnout in pre-schools: A cross-cultural factorial validity, measurement invariance and latent mean comparison of the Maslach Burnout Inventory, Educators Survey (MBI-ES). *Children and Youth Services Review*, *94* (issue C), 186-197.

Ouweneel, E., Schaufeli, W. B., & Blanc, P. (2013). Believe, and you will achieve: changes over time in self-efficacy, engagement, and performance. *Applied Psychology: Health and Well-bein*g, *5*(2), 225-247.

Pan, W., Huang, X., & Lu, X. (2010). 消极生活事件的积极效应: 意义发现 [The Positive effects of negative Life Events: Meaning discovery]. *Journal of Southwest University (Social Science Edition)*, *36*(02), 8-13.

Panagioti, M., Geraghty, K., Johnson, J., Zhou, A., Panagopoulou, E., Chew-Graham, C., Peters, D., Hodkinson, A., Riley, R., & Esmail, A. (2018). Association between physician burnout and patient safety, professionalism, and patient satisfaction. *JAMA Internal Medicin*e, *178*(10), 1317-1331.

Patel, R., Bachu, R., Adikey, A., Malik, M., & Shah, M. (2018). Factors related to physician burnout and its consequences: A review. *Behavioral Sciences*, *8*(11), 98.

Pearlin, L. I., & Schooler, C. (1978). The Structure of Coping. *Journal of Health and Social Behavior*, *19*(1), 2-21.

Piccolo, R. F., & Colquitt, J. A. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal*, *49* (2), 327-340.

Pines, A., & Aronson, E. (1988). Career burnout: Causes and cures. *Choice Reviews Online*,

26(03), 1580.

Piperac, P., Todorovic, J., Terzic-Supic, Z., Maksimovic, A., Karic, S., Pilipovic, F., & Soldatovic, I. (2021). The validity and reliability of the Copenhagen burnout inventory for examination of burnout among preschool teachers in Serbia. *International Journal of Environmental Research and Public Health*, *18*(13), 1-10.

Podsakoff, N., LePine, J., & Lepine, M. (2007). Differential challenge stressor–hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: A meta-analysis. *The Journal of Applied Psychology*, *92*, 438-454.

Podsakoff, P. M., Mackenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied of Psychology*, *88*(5), 879-903.

Prieto, L. L., Soria, M. S., Martínez, I. M., & Schau Fe Li, W. (2008). Extension of the Job Demands-Resources model in the prediction of burnout and engagement among teachers over time. *Psicothema*, *20*(3), 354-360.

Pulcrano, M., Evans, S., & Sosin, M. (2016). Quality of life and burnout rates across surgical specialties: A systematic review. *JAMA Surgery*, *151*(10),970-978.

Rafferty, Y. (1987). *A test of the job demands-control and person-environment fit models of occupational stress as predictors of burnout in human service workers* [Doctoral dissertation]. State University of New York at Stony Brook.

Rao, K., Xu, L., & Chen, Y. (2010). *中国医患关系调查研究：第四次国家卫生服务调查专题研究报告（二）* [Investigation on doctor-patient relationship in China: Report of the fourth national health service survey (2)]. China Union Medical College Press.

Rasheed, M. I., Okumus, F., Weng, Q., Hameed, Z., & Nawaz, M. S. (2020). Career adaptability and employee turnover intentions: The role of perceived career opportunities and orientation to happiness in the hospitality industry. *Journal of Hospitality and Tourism Management*, *44*, 98-107.

Rashifah, & Kamaruddin. (2013). Relationship between job demand and job resources on employees' work engagement in HVAC Industry in Malaysia. *International Journal of Finance and Management*, *1*(3), 185-199.

Rawolle, M., Wallis, M., Badham, R., & Kehr, H. M. (2016). No fit, no fun: The effect of motive incongruence on job burnout and the mediating role of intrinsic motivation. *Personality and Individual Differences*, 89, 65-68.

Robert, V., & Vandenberghe, C. (2017). Openness to experience, organizational commitment and intention to quit: the moderating role of career opportunities. *Le Travail Humain*, *80*(4), 337-366.

Roberts-Thomson, R. L., & Kirchner, S. D. (2018). How to improve the wellbeing of junior doctors: building the evidence. *The Medical Journal of Australia*, *209*(9), 391-392.

Rodríguez-Rey, R., Garrido-Hernansaiz, H., & Bueno-Guerra, N. (2020). Working in the times of COVID-19. psychological impact of the pandemic in frontline workers in Spain. *International Journal of Environmental Research and Public Health*, *17*(21),1-23.

Rothenberger, D. A. (2017). Physician burnout and well-being. *Diseases of the Colon & Rectum*, *60*(6), 567-576.

Russell, J. A., & Carroll, J. M. (1999). On the bipolarity of positive and negative affect. *Psychological Bulletin*, (125), 3-10.

Sack, W. H. (1982). Staff burnout: Job stress in the human services. *Journal of the American Academy of Child Psychiatry*, *21*(3), 311–312.

Safi, M., Mohamadi, F., Amouzadeh, I., & Arshi, S. (2016). The relationship between manager' leadership style with job satisfaction and burnout in staff of Shomal health center of Tehran. *Salāmat-i ijtimāī*, *2*(2), 88-97.

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of*

Managerial Psychology, *21*(7), 600-619.

Salmela-Aro, K., & Upadyaya, K. (2018). Role of demands-resources in work engagement and burnout in different career stages. *Journal of Vocational Behavior*, *108*, 190-200.

Schaubroeck, J., Cotton, J. L., & Jennings, K. R. (1989). Antecedents and consequences of role stress: A covariance structure analysis. *Journal of Organizational Behavior*, *10*(1), 35-58.

Schaufeli, Wilmar, B., Bakker, Arnold, B., Salanova, & Marisa. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational & Psychological Measurement*, *66*(4), 701–716.

Schaufeli, W. B. (2015). Engaging leadership in the job demands-resources model. *Career Development International*, *20*(5), 446-463.

Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). The Maslach Burnout Inventory—General Survey. In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.), *Maslach burnout inventory* (pp.19-26). Consulting Psychologists Press.

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International*, *14*(3), 204-220.

Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology*, *33*(5), 464-481.

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*(1), 71-92.

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, *25*(3), 293-315.

Schaufeli, W. B., & Salanova, M. (2006). Work Engagement: An emerging psychological concept and its implications for organizations. In S. W. Gilliland, D. D. Steiner, & D. P. Skarlicki (Eds.), *Managing Social and ethical issues in organizations* (pp.135-177). Information Age Publishing.

Schaufeli, W. B., & Taris, T. W. (2005). The conceptualization and measurement of burnout: Common ground and worlds apart. *Work & Stress*, *19*(3), 256-262.

Schaufeli, W. B., & Taris, T. W. (2013). A critical review of the job demands-resources model: Implications for improving work and health. In G. F. Bauer, & O. Hämmig (Eds.), *Bridging occupational, organizational and public health* (pp. 43-68). Springer Dordrecht.

Schutte, N. S., & Loi, N. M. (2014). Connections between emotional intelligence and workplace flourishing. *Personality and Individual Differences*, *66*(8), 134-139.

Seay-Morrison, T. P., Hirabayshi, K., Malloy, C. L., & Brown-Johnson, C. (2021). Factors affecting burnout among medical assistants. *Journal of Healthcare Management*, *66*(2), 111-121.

Seppl, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., & Schaufeli, W. (2009). The construct validity of the Utrecht work engagement scale: Multisample and longitudinal evidence. *Journal of Happiness Studies*, *10*(4), 459-481.

Shan, B., Fei, Y., Yu, H., & Chen, B. (2017). 创业者人格特质的内涵及其对创业产出的影响研究进展探析 [Review of the research progress on the connotation of entrepreneur's personality traits and its influence on entrepreneurial output]. *Foreign economy and management*, *39*(04), 15-24.

Shan, H., Hu, E., Bao, J., & Zhang, M. (2015). Organizational status perception on the impact of turnover intention in non-state enterprise. *Chinese Journal of Management*, *12*(08), 1144-1153.

Shan, Y., Zhang, L., Guo, J., Zhang, M., & Huang, Y. (2021). 急诊科医护人员职业倦怠原

因分析——基于广州4家综合医院的质性研究 [Analysis of the causes of medical staff's job burnout in emergency department - based on the qualitative research of four general hospitals in Guangzhou]. *Chinese hospital management*, *41*(06), 62-65.

Shanafelt, T. D., Dyrbye, L. N., Sinsky, C., Hasan, O., Satele, D., Sloan, J., & West, C. P. (2016). Relationship between clerical burden and characteristics of the electronic environment with physician burnout and professional satisfaction. *Mayo Clinic Proceedings*, *91*(7), 836-848.

Shanafelt, T. D., Gorringe, G., Menaker, R., Storz, K. A., Reeves, D., Buskirk, S. J., Sloan, J. A., & Swensen, S. J. (2015). Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clinic Proceedings*, *90*(4), 432-440.

Shanafelt, T. D., Hasan, O., Dyrbye, L., Sinsky, C., Satele, D., Sloan, J., & West, C. P. (2015). Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. *Mayo Clinic Proceedings*, *90*(12), 1600-1613.

Shanafelt, T. D., & Noseworthy, J. H. (2017). Executive leadership and physician well-being. *Mayo Clinic Proceedings*, *92*(1), 129-146.

She, Q. (2019). *Research on job performance improvement of medical staff in public hospitals based on job embedding perspective* [Doctoral dissertation]. Beijing Jiaotong University.

Shi, H., Li, J., & Liang, Y. (2021). 新型家庭医生签约服务制度下无锡市基层医务人员组织公平感和心理资本对其工作投入的影响 [The impact of organizational justice and psychological capital on its work engagement of grassroots medical staff in Wuxi under the new family doctor contract service system]. *Medicine and Society*, *34*(03), 79-83.

Shi, L., & Zhang, X. (1997). 儒家和道家:两种传统的人生观对中国大众心理应对方式的影响 [Confucianism and Taoism: The influence of two traditional outlook on life on the psychological coping styles of the Chinese public]. *Social Psychological Science*, (3), 22-26.

Shi, M. (2013). *Traditional Confucian view of coping with stress and its current significance* [Doctoral dissertation]. Nankai University.

Shi, X., Ji, X., & Wang, Z. (2022). 基于高质量发展的公立医院员工援助项目的探索与实践 [Exploration and practice of employee assistance program in public hospitals based on high-quality development]. *Chinese Hospital Management*, *42*(07), 83-86.

Shin, E. K., & Oh, S. J. (2017). Impact of unmet expectations on manager's job burnout: Examination of the mediating role of overcommitment. *The Journal of the Korea Contents Association*, *17*(1), 611-633.

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, *1*(1), 27-41.

Siegrist, S. J. (2004). Effort–reward imbalance model and self-reported health: cross-sectional and prospective findings from the GAZEL cohort. *Social Science & Medicine*, *58*(8), 1531-1541.

Singh, R., & Greenhaus, J. H. (2004). The relation between career decision-making strategies and person–job fit: A study of job changers. *Journal of Vocational Behavior*, *64*(1), 198-221.

Song, L. (2015). 论儒家思想在工作压力应对中的应用 [On the application of Confucianism in dealing with work stress]. *Modern Business*, (06), 63-64.

Spurgeon, P., Barwell, F., & Mazelan, P. (2008). Developing a medical engagement scale (MES). *The International Journal of Clinical Leadership*, *16*, 213–223.

Spurgeon, P., Mazelan, P. M., & Barwell, F. (2011). Medical engagement: a crucial underpinning to organizational performance. *Health Services Management Research*,

24(3), 114-120.

Sumner, R. C., & Kinsella, E. L. (2021). "It's like a kick in the teeth": The emergence of novel predictors of burnout in frontline workers during Covid-19. *Frontiers in Psychology*, *12*, 1-7.

Sumner, R. C., & Kinsella, E. L. (2022). Solidarity appraisal, meaning, and markers of welfare in frontline workers in the UK and Ireland during the Covid-19 pandemic. *SSM - Mental Health*, *2*, 1-9.

Sun, C., Qi, Y., & Fu, Q. (2012). 国外"磁性医院"管理模式对护理人力资源建设的研究介绍 [Introduction of the nursing human resources by the management mode of "magnetic hospital" abroad]. *Journal of Nurses Training*, *27*(09), 864-865.

Sun, J., & Hospital, Z. R. (2012). Magnetic hospital based high quality care of Taiwan. *Chinese Health Quality Management*, *19*(03), 21-23.

Sun, Q., & Zhang, L. (2021). 医院高层次人才考核评价体系探析 [Exploration and analysis of the evaluation system of high—level talents in hospitals]. *Chinese Hospitals*, *25*(01), 55-57.

Sun, T., Gao, L., Li, F., Shi, Y., Xie, F., Wang, J., Wang, S., Zhang, S., Liu, W., Duan, X., Liu, X., Zhang, Z., Li, L., & Fan, L. (2017). Workplace violence, psychological stress, sleep quality and subjective health in Chinese doctors: a large cross-sectional study. *BMJ Open*, *7*(12), 1-8.

Tait D, S., Sonja, B., Litjen, T., Lotte N, D., Wayne, S., Daniel, S., Colin P, W., Jeff, S., & Michael R, O. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine*, *172*(18),1377-1385.

Tang, N., & Thomson, L. E. (2019). Workplace violence in Chinese hospitals: The effects of healthcare disturbance on the psychological well-being of Chinese healthcare workers. *International Journal of Environmental Research and Public Health*, *16*(19), 3687.

Tawfik, D. S., Profit, J., Webber, S., & Shanafelt, T. D. (2019). Organizational factors affecting physician well-being. *Current Treatment Options in Pediat*rics, *5*(1), 11-25.

Taycan, O., Taycan, S. E., & Çelik, C. (2013). Relationship of burnout with personality, alexithymia, and coping behaviors among physicians in a semiurban and rural area in Turkey. *Archives of Environmental & Occupational He*alth, *69*(3), 159-166.

TD, S., CM, B., & GJ, B. (2009). Burnout and career satisfaction among American surgeons. *Annals of Surgery*, *250*(3), 463-471.

Ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work–home interface: The work–home resources model. *American Psychologist*, 67(7), 545-556.

Thirioux, B., Birault, F., & Jaafari, N. (2016). Empathy is a protective factor of burnout in physicians: New neuro-phenomenological hypotheses regarding empathy and sympathy in care relationship. *Frontiers in Psychology*, *7*, 763.

Thrush, C. R., Gathright, M. M., Atkinson, T., Messias, E. L., & Guise, J. B. (2020). Psychometric properties of the Copenhagen burnout inventory in an academic healthcare institution sample in the U.S. *Evaluation &The Health Professions*, *44*(4), 400-405.

Tomo, A., & De Simone, S. (2019). Using the job demands-resources approach to assess employee well-being in healthcare. *Health Services Management Research, 32*(2), 58-68.

Tong, H., Yang, Y., & Liang, S. (2010). 传统价值观接受程度及其对心理健康的影响 [Acceptance of traditional values and its impact on mental health]. *Chinese Journal of Health Psychology*, *18*(01), 105-109.

Tong, J., Wang, L., & Peng, K. (2015). From person-environment misfit to job burnout: theoretical extensions. *Journal of Managerial Psychology*, *30*(2), 169-182.

Trockel, M., Bohman, B., Lesure, E., Hamidi, M. S., Welle, D., Roberts, L., & Shanafelt, T. (2018). A brief instrument to assess both burnout and professional fulfillment in

physicians: Reliability and validity, including correlation with self-reported medical errors, in a sample of resident and practicing physicians. *Academic Psychiatry*, *42*(1), 11-24.

Tyler, T. R., & Blader, S. L. (2003). The group engagement model: Procedural justice, social identity, and cooperative behavior. *Personality and Social Psychology Review*, *7*(4), 349-361.

Van den Broeck, A., De Cuyper, N., De Witte, H., & Vansteenkiste, M. (2010). Not all job demands are equal: Differentiating job hindrances and job challenges in the Job Demands-Resources model. *European Journal of Work and Organizational Psychology*, *19*(6), 735-759.

Van der Heijden, B., & Demerouti, E. (2008). Work-home interference among nurses: Reciprocal relationships with job demands and health. *Journal of Advanced Nursing*, *62*, 572-584.

Van Wijhe, C. I., Peeters, M. C., & Schaufeli, W. B. (2011). To stop or not to stop, that's the question: about persistence and mood of workaholics and work engaged employees. *International Journal of Behavior Medicine*, *18*(4), 361-372.

Vasquez, A. S., Santos, E. D., Paico, E., & Hurtz, C. (2015). Adaptation and Validation of the Brazilian Version of the Utrecht Work Engagement Scale. *Psico-USF*, *20*(3), 258-264.

Veldhoven, M., & Meijman, T. F. (1998). Questionnaire on the Experience and Evaluation of Work- QEEW (see QEEW2.0 for new version).

Wan, J., Zhou, W., LI, Q., Zhou, X., Shao, J., & Shi, K. (2021). 心理脱离对六盘水市医务人员工作投入的影响 [The impact of psychological detachment on work engagement of medical staff in Liupanshui]. *Medicine and Society*, *34*(6), 88-91, 96.

Wang, B., Liu, Y., Ning, N., Sun, Y., Ba, L., & Liu, H. (2011). 医务人员职业倦怠与职业满意度调查 [Investigation on medical staff's job burnout and job satisfaction]. *Journal of Clinical Psychiatry*, *21*(04), 236-239.

Wang, H., Qian, Y., Wang, X., Zheng, G., Feng, W., & Fang, W. (2017). 医务人员工作满意度测评量表的研制及验证研究 [Development and validation studies of medical staff job satisfaction assessment scale]. *Chinese Hospital Management*, *37*(03), 14-17.

Wang, J. (2018). 角色情感视域下医生医患关系的认知调查——以陕西省某三甲医院为例 [Cognitive investigation on the doctor-patient relationship of doctors under the perspective of role emotion: taking one class A tertiary hospital in Shanxi Province as a case]. *Chinese Medical Ethics*, *31*(02), 189-193.

Wang, M., Xu, P., Liu, Y., Dong, X., Zhang, L., & Gu, D. (2021). 基于主成分回归的四川省公立医院医生工作投入影响因素分析 [Analysis of factors influencing doctors' job engagement in public hospitals in Sichuan Province based on principal component regression]. *Modern Preventive Medicine*, *48*(9), 1626-1630.

Wang, M., Zhang, J., Bi, Y., & Nie, Q. (2021). 怀才不遇还是游刃有余：资质过剩研究述评 [Unrecognized talent or having quite capability: Research review on excess qualifications]. *Journal of Wuhan University of Technology (IAME)*, *43*(02), 168-173.

Wang, R., & Xu, F. (2021). "新冠"疫情背景下基层医疗机构人员职业倦怠现状及影响因素调查 [Investigation on the status quo and influencing factors of job burnout in primary medical institutions under the background of COVID-19]. *Jiangsu Health System Management*, *32*(05), 579-582.

Wang, S., Xie, F., Shi, Y., Meng, D., Zhang, S., Wang, J., Qiao, Z., & Yang, Y. (2017). 临床医生工作要求—资源量表编制及对工作— 家庭冲突的影响 [Development of the Job Demand-Resource Scale for Physicians and its Impact on Work-Family Conflict]. *Chinese Hospital Management*, *37*(06), 63-65.

Wang, W., Zhao, P., & Shi, M. (2020). 三甲医院职工职业生涯规划研究 [Research on career planning of staff in top three hospitals]. *China Health Industry*, *17*(06), 25-27.

Wang, X., Bu, X., Zhao, X., & Jin, H. (2015). 临床护士工作投入及其影响因素的研究 [Clinical nurses' engagement and its influencing factors]. *Chinese Journal of Practical Nursing*, *31*(19), 1467-1470.

Wang, X., Cheng, X., & Chen, L. (2020). Research on the influence of physician-work environment fitting on turnover intention-mediating role of job burnout. *Journal of Physics: Conference Series*, *1629*, 12091.

Wang, X., & Shi, M. (2013). 中国人压力应对研究:基于主位与客位的视角 [Research on Chinese people's stress coping: from the perspective of theme and guest position]. *Advances in Psychological Science*, *21*(07), 1239-1247.

Wang, Y., Zhang, X., & Han, Y. (2017). 辱虐管理、员工信任与离职倾向: 传统性的调节作用 [Abusive management, employee trust, and turnover Intention: The moderating role of tradition]. *Leadership Science*, (02), 45-49.

Wang, Y., & Zhang, W. (2020). 公立医院医生的职业使命感对工作投入度的影响研究 [A research on the impacts of doctors' sense of professional duty on work engagement in public hospitals]. *Science Research Management*, *41*(2), 230-238.

Waszkowska, M., Andysz, A., & Merecz, D. (2014). Person-organization fit as a mediator of relationship between work environment and stress among social workers. *Medycyna Pracy*, *65*(2), 219-228.

Welp, A., Meier, L. L., & Manser, T. (2014). Emotional exhaustion and workload predict clinician-rated and objective patient safety. *Frontiers in Psychology*, *5*, 1573.

Weng, Q., & Xi, Y. (2010). 职业成长与离职倾向:职业承诺与感知机会的调节作用 [Career growth and turnover intention: The moderating role of career commitment and perceived opportunity]. *Nankai Management Review*, *13*(02), 119-131.

West, C. P., Dyrbye, L. N., & Shanafelt, T. D. (2018). Physician burnout: contributors, consequences and solutions. *Journal of Internal Medicine*, *283*(6), 516-529.

West, M. A., & Dawson, J. F. (2012). *Employee engagement and NHS performance.* The King's Fund.

Westover, J. H. (2012). The job satisfaction-gender paradox revisited: A cross-national look at gender differences in job satisfaction, 1989-2005. *Journal of Global Responsibility*, *3*(2), 263-277.

World Health Organization. (2020). *World Health Statistics 2020: Monitoring health for the SDGs, sustainable development goals.* World Health Organization.

Winwood, P. C., & Winefield, A. H. (2004). Comparing two measures of burnout among dentists in Australia. *International Journal of Stress Management*, *11*(3), 282.

Wong, C. S., Wong, Y. T., Hui, C., & Law, K. S. (2001). The significant role of Chinese employees' organizational commitment: implications for managing employees in Chinese societies. *Journal of World Business*, *36*(3), 326-340.

Wright, Bradley, & James. (2011). Effort-reward imbalance is associated with salivary immunoglobulin a and cortisol secretion in disability workers. *Journal of Occupational & Environmental Medicine*, *53*(3), 308-312.

Wright, A. A., & Katz, I. T. (2018). Beyond Burnout - Redesigning Care to Restore Meaning and Sanity for Physicians. *New England Journal of Medicine*, *378*(4), 309-311.

Wu, H. (2020). 《论语》中的敬业思想及其对新时代职业道德建设的启示 [The thought of professional dedication in the Analects of Confucius and its enlightenment to the construction of professional ethics in the new era]. *Journal of the Party School of Chengdu Municipal Committee of the Communist Party of China*, (06), 87-91.

Wu, J., Liu, W., Feng, T., Liang, Z., & Zhu, J. (2020). 哥本哈根倦怠问卷的修订及信效度

检验 [Revision of Copenhagen burnout questionnaire and its reliability and validity test]. *Chinese Nursing Research*, *34*(23), 4149-4153.

Wu, M. (2010). *问卷统计分析实务:SPSS操作与应用* [Questionnaire statistical analysis: spss practices and applications]. Chongqing University Press.

Wu, Y., Yang, J., Tang, W., & Zhang, L. (2017). 医护人员工作投入与任务绩效的影响因素及相互关系研究 [The influencing factors and relationship between medical staff's job engagement and task performance]. *Chinese Health Service Management*, *34*(3), 184-188.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, *14*(2), 121-141.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, *82*(1), 183-200.

Xiang, G., Zen, J., Chen, T., Cai, X., Xie, P., Bai, X., & Liu, Y. (2020). 编制外用工模式下的员工激励研究 [Research on employee motivation under contract employment mode]. *China Economist*, (08), 264-265.

Xiao, Y., Dong, D., Zhang, H., Chen, P., Li, X., Tian, Z., Jing, Z., & Zhang, S. (2022). Burnout and well-being among medical professionals in China: A national cross-sectional study. *Frontiers in Public Health*, *9*, 1-10.

Xie, J. L., Schaubroeck, J., & Lam, S. S. K. (2008). Theories of job stress and the role of traditional values: A longitudinal study in China. *Journal of Applied Psychology*, *93*(4), 831-848.

Xie, X., Yang, D., Kong, Y., Zhang, J., & Zeng, Y. (2011). 共情培养对改善急诊护士职业倦怠及护患关系的研究 [Empathy training to improve the job burnout of emergency nurses and nurse-patient relationship]. *Occupation and Health*, *27*(22), 2550-2551.

Xu, J., Li, Y., Fu, A., Zhu, X., Zhai, Y., & Wang, Z. (2015). 医护人员心理减压模式及效果 [Psychological decompression mode and effect of medical staff]. *Jiangsu Medical Journal*, *41*(20), 2485-2486.

Xu, J., Powell-Jackson, T., & Mills, A. (2020). Effectiveness of primary care gatekeeping: difference-in-differences evaluation of a pilot scheme in China. *BMJ Global Health*, *5*(8), 1-7.

Xu, W., & Xu, L. (2022). 磁性医院管理联合中医技术在康复科护理管理中的实践与评价 [Practice and evaluation of magnetic hospital management combined with traditional Chinese medicine in nursing management of rehabilitation Department]. *Journal of Traditional Chinese Medicine Management*, *30*(16), 81-83.

Xu, X., & Li, W. (2019). 儒家传统与企业创新:文化的力量 [Confucian tradition and corporate innovation: The power of culture]. *Financial Research*, (09), 112-130.

Xuan, Y., Xie, B., & Ma, N. (2018). 职业成长机会对员工工作投入的影响:基于自我决定理论的视角 [The influence of career growth opportunities on employees' job engagement: from the perspective of self-determination theory]. *Human Resources Development of China*, *35*(02), 141-152.

Yan, W., Sun, X., Wang, S., Zhang, X., Huang, S., & Li, L. (2019). 基于工作要求-资源模型的黑龙江省三级公立医院医生离职倾向及其影响因素 [Study on the turnover intention and its influencing factors of doctors in third-grade public hospitals in Heilongjiang province based on job demand-resource model]. *Medicine and Society*, *32*(11), 78-81, 115.

Yang, J. (2021). 儒家"道德—社会"领导力与"大人"管理制度的现代价值 [Confucian "moral-social" leadership and the modern value of "Adult" management system]. *Science*

of Leadership, (24), 51-55.

Yang, X., & Hu, H. (2021). 个体特征和工作环境对教研员工作投入的影响：自我效能感的中介作用 [The influence of individual characteristics and working environment on teaching and research staff's job engagement: The mediating role of self-efficacy]. *Global Education*, *50*(08), 116-128.

Yao, K., & Tang, J. (2016). 雇佣关系、组织公平与知识共享意愿:基于中国企业的实证研究 [Employment relationship, organizational justice and knowledge sharing willingness: An empirical research based on Chinese enterprises]. *Journal of Fudan University (Natural Science)*, *55*(01), 8-17.

Yi, D., & Li, J. (2019). *结构方程模型及其应用* [Structural equation model and its applications]. Peking University Press.

Yin, D. (2017). *The relationship between workplace bullying and professional identity in nurses with low seniority* [Master's thesis]. Jilin University.

Yu, K. Y. T. (2009). Affective influences in person–environment fit theory: Exploring the role of affect as both cause and outcome of P-E fit. *Journal of Applied Psychology*, *94*(5), 1210-1226.

Yu, X. (2017). *The relationship between career mission and job involvement of New Generation employees* [Master Dissertation]. Yunnan University of Finance and Economics.

Yuan, X., Zhu, J., & He, W. (2019). 医务人员临床共情与工作倦怠的关系及其机制 [Relationship between medical staff's clinical empathy and job burnout and its mechanism]. *Journal of Nanjing Medical University (Social Sciences)*, *19*(03), 185-188.

Yun-Shan, L. I. (2013). Research on job burnout of enterprise middle-level manager. *Journal of Hunan Institute of Humanities, Science and Technology*, (05), 140-145.

Zeng, H., & Zhang, J. (2016). 组织支持对员工感恩的影响——组织公平的调节作用 [The influence of organizational support on employees' gratitude-the moderating effect of organizational justice]. *Journal of Technical Economics & Management*, (03), 64-68.

Zeng, L. P. (2008). Relationship between work-family conflict and job burnout of IT staffs. *Progress in Modern Biomedicine*, *9*(20), 3941-3943.

Zhang, D., Lu, D., Shi, Y., Xie, F., Wang, J., Xie, Y., Zhang, S., & Sun, T. (2016). 公立医院工作场所患者暴力对护士职业倦怠的影响 [Impact of patients violence in public hospital on job burnout of nurses]. *Chinese Hospital Management*, *36*(09), 69-71.

Zhang, D., & Wang, M. (2022). 美国磁性医院认证及对我国研究型医院建设的启示 [American magnetic hospital certification and its enlightenment to the construction of Chinese research hospital]. *Chinese Research Hospitals*, *9*(02), 65-67.

Zhang, J. (2009). *On the relationship between Confucian and Taoist traditional values and mental health of contemporary college students* [Doctoral dissertation]. Jilin University.

Zhang, L., Xu, P., Zheng, Q., Gu, D., Dong, X., & Liu, Y. (2021). 四川省公立医院医生工作投入及影响因素分析 [Analysis of doctors' job engagement and influencing factors in public hospitals in Sichuan province]. *Chinese Health Service Management*, *38*(03), 182-187.

Zhang, L., Zhen, L., & Zhou, Y. (2022). 磁性医院理念在优化中医护士执业环境中的作用 [The role of magnetic hospital concept in optimizing the practice environment of TCM nurses]. *Journal of Traditional Chinese Medicine Management*, *30*(01), 190-191.

Zhang, M., Zhu, Y., & Peng, Y. (2016). 医务人员职业倦怠及其影响因素的研究——以南京市某中医院为例 [Medical staff's job burnout and its influencing factors-Taking a Chinese traditional medicine hospital in Nanjing as an example]. *Journal of Nanjing Medical University (Social Sciences)*, *16*(2), 115-119.

Zhang, W., He, G., & Chen, L. (2011). 中国文化价值观与中国人幸福感的研究综述 [Chinese cultural values and Chinese people's happiness]. *Journal of Psychological Research*, *4*(03), 48-52.

Zhang, X., Bai, X., Bian, L., & Wang, M. (2021). The influence of personality, alexithymia and work engagement on burnout among village doctors in China: a cross-sectional study. *BMC Public Health*, *21*(1),1507.

Zhang, X., Yang, Y., Zhang, R., Yin, R., Wu, X., Qian, L., & Zhou, W. (2022). 研究型临床医生培养与选拔评价体系构建 [Construction of training and selection evaluation system of research-oriented clinicians]. *Medical Education Management*, *8*(02), 221-225.

Zhang, Y., Liao, J., & Zhao, J. (2013). 科研压力对博士生学术不端行为的影响研究 [Research on the influence of research pressure on academic misconduct of doctoral students]. *Science Research Management*, *34*(04), 99-107.

Zhang, Y., & Gan, Y. (2005). 中文版Utrecht工作投入量表(UWES)的信效度检验 [Reliability and validity of Chinese Utrecht job engagement scale (UWES)]. *Chinese Journal of Clinical Psychology*, *13*(03), 268-270.

Zhao, C. (2009). 论儒家自我调节及其内在机制 [Confucian self-regulation and its internal mechanism]. *Journal of Educational Science of Hunan Normal University*, *38*(04), 17-21.

Zhao, W., Cui, X., & Cao, X. (2016). 过度胜任感对员工绩效的影响机制——有中介的调节模型 [Unraveling the impact of perceived overqualification on employee performance-examining a mediated moderation model]. *Science of Science and Management of S.&T.*, *37*(06), 169-180.

Zhao, X., Shi, J., Su, N., & Wang, Y. (2019). 职业倦怠对医患关系的影响 [Influence of job burnout on doctor-patient relationship]. *Journal of Tongji University (Medical Science)*, *40*(01), 112-116.

Zhao, X., & Li, X. (2021). "十四五"期间医院信息化建设发展的若干思考 [Thoughts on the development of hospital information construction during the "14th Five-Year Plan"]. *Chinese Hospitals*, *25*(01), 64-66.

Zhao, Y., & Yuan, X. (2020). "35岁现象"的成因分析及应对策略 [Analysis of the causes of "35-Year-Old phenomenon" and countermeasures]. *People's Tribune*, (28), 132-135.

Zhou, F. (2009). *A study on the effect of perceived team support, research self-efficacy on innovation performance in university research team* [Master's thesis]. Zhejiang University of Technology.

Zhou, H. (2022). 浅析三甲医院编外人员管理 [A brief analysis of contract staff management in a top three hospitals]. *Chinese Health Professionals*, (08), 60-62.

Zhou, L., Zeng, W., Cai, T., & Zhu, H. (2011). 情绪智力、大五人格与行政管理干部工作倦怠的关系 [The relationship between emotional intelligence, Big Five Personality and job burnout of administrative cadres]. *Chinese Journal of Clinical Psychology*, *19*(03), 380-381.

Zhou, X., Li, L., & Yao, W. (2020). 基于广州市某三甲医院医生视角的医患关系及防御性医疗行为研究 [Study on doctor-patient relationship and doctors' defensive medical behavior from doctors' perspective in a tertiary hospital with Level 3 in Guangzhou]. *Medicine and Society*, *33*(04), 109-113.

Zhou, Y. (2006). 中国儒家心理保健方法及其现代意义 [Chinese Confucian mental health care method and its modern significance]. *Journal of Longyan University*, (01), 78-80.

Zhou, Y., Liu, Y., & Hao, Z. (2020). 公立医院建立人力资源精细化管理体系的探索与实践 [Exploration and Practice of Establishing the Delicacy Human Resource Management System in Public Hospitals]. *Chinese Hospital Management*, *40*(12), 74-76.

Zhu, J., Hu, D., Li, J., & Yang, Y. (2020). 新冠疫情背景下医务人员职业倦怠影响因素分

析 [Analysis of Influencing Factors of Medical Staff's Job Burnout under the Background of COVID-19]. *Journal of Southeast University (Medical Science Edition)*, *39*(06), 747-752.

Zis, P., Anagnostopoulos, F., & Sykioti, P. (2014). Burnout in medical residents: A study based on the job demands-resources model. *The Scientific World Journal*, *2014*(4), 1-10.

Webliography

Leslie Kane, M. (2021, January 22). *'Death by 1000 Cuts': Medscape national physician burnout & suicide report 2021*. Medscape. Retrieved March 27, 2021, from https://www.medscape.com/slideshow/2021-lifestyle-burnout-6013456

Maslach, C., Jackson, S. E., & Schwab, R. (1996). *MBI: Educators survey*. Mind Garden. Retrieved April 15, 2021, from https://www.mindgarden.com/316-mbi-educators-survey

Pendell, R. (2020，December 11). *7 Gallup Workplace Insights: What We Learned in 2020*. Gallup. Retrieved October 20, 2021, from https://www.gallup.com/workplace/327518/gallup-workplace-insights-learned-2020.aspx

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Annex A: Relevant Tables

Table a.1 Results of descriptive statistical analysis of sample data

Variable	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
VIG1	1653	1.00	6.00	4.34	1.33	-0.24	-0.85
VIG2	1653	1.00	6.00	4.22	1.35	-0.13	-0.95
VIG3	1653	1.00	6.00	3.75	1.58	-0.05	-1.02
VIG	1653	1.00	6.00	4.10	1.25	-0.06	-0.82
DED1	1653	1.00	6.00	4.57	1.27	-0.38	-0.82
DED2	1653	1.00	6.00	4.17	1.39	-0.13	-0.95
DED3	1653	1.00	6.00	4.53	1.40	-0.46	-0.89
DED	1653	1.00	6.00	4.42	1.20	-0.25	-0.87
ABS1	1653	1.00	6.00	3.60	1.60	0.09	-1.03
ABS2	1653	1.00	6.00	4.20	1.43	-0.27	-0.81
ABS3	1653	1.00	6.00	4.01	1.49	-0.19	-0.88
ABS	1653	1.00	6.00	3.94	1.33	-0.09	-0.76
JE	1653	1.00	6.00	4.15	1.06	-0.10	-0.52
JB1	1653	1.00	6.00	3.67	1.50	0.01	-0.82
JB2	1653	1.00	6.00	3.06	1.49	0.49	-0.48
JB3	1653	1.00	6.00	2.82	1.42	0.68	-0.10
JB4	1653	1.00	6.00	3.43	1.53	0.17	-0.85
JB5	1653	1.00	6.00	3.14	1.56	0.26	-0.86
JB6	1653	1.00	6.00	2.74	1.45	0.54	-0.47
JB7	1653	1.00	6.00	3.05	1.55	0.31	-0.83
JB	1653	1.00	6.00	3.13	1.17	0.28	-0.27
OA1	1653	1.00	6.00	4.62	1.26	-0.62	-0.25
OA2	1653	1.00	6.00	4.87	1.08	-0.75	0.34
OA3	1653	1.00	6.00	5.00	1.12	-0.86	0.22
OA	1653	1.00	6.00	4.83	1.00	-0.49	-0.46
VF1	1653	1.00	6.00	2.96	1.53	0.35	-0.77
VF2	1653	1.00	6.00	2.35	1.42	0.93	0.10
VF3	1653	1.00	6.00	2.39	1.40	0.80	-0.12
VF	1653	1.00	6.00	2.57	1.22	0.63	0.09
RH1	1653	1.00	6.00	4.03	1.29	-0.26	-0.31
RH2	1653	1.00	6.00	5.33	1.21	-2.03	3.52
RH3	1653	1.00	6.00	4.35	1.54	-0.72	-0.42
RH4	1653	1.00	6.00	4.94	1.12	-0.96	0.67
RH	1653	1.00	6.00	4.66	1.02	-0.87	1.03
AIG1	1653	1.00	6.00	4.84	1.19	-0.84	0.20
AIG2	1653	1.00	6.00	4.67	1.31	-0.96	0.53
AIG3	1653	1.00	6.00	4.09	1.52	-0.49	-0.59
AIG4	1653	1.00	6.00	4.08	1.48	-0.32	-0.77
AIG5	1653	1.00	6.00	4.16	1.38	-0.29	-0.63
AIG	1653	1.00	6.00	4.37	1.09	-0.69	0.82
CC	1653	1.17	6.00	4.57	0.86	-0.31	-0.23
PCO1	1653	1.00	6.00	4.50	1.19	-0.37	-0.54
PCO2	1653	1.00	6.00	4.56	1.21	-0.54	-0.14
PCO3	1653	1.00	6.00	4.47	1.26	-0.50	-0.31
PCO	1653	1.00	6.00	4.51	1.06	-0.32	-0.32

PJF1	1653	1.00	6.00	4.71	1.13	-0.60	-0.15
PJF2	1653	1.00	6.00	4.88	1.03	-0.62	-0.23
PJF3	1653	1.00	6.00	4.63	1.23	-0.66	-0.11
PJF4	1653	1.00	6.00	4.70	1.14	-0.69	0.12
PJF	1653	1.00	6.00	4.73	0.96	-0.38	-0.40
JA1	1653	1.00	6.00	4.01	1.36	-0.31	-0.53
JA2	1653	1.00	6.00	4.59	1.25	-0.70	0.03
JA	1653	1.00	6.00	4.30	1.16	-0.37	-0.26
POS1	1653	1.00	6.00	4.01	1.51	-0.40	-0.70
POS2	1653	1.00	6.00	4.05	1.43	-0.40	-0.53
POS	1653	1.00	6.00	4.03	1.33	-0.30	-0.54
OSP	1653	1.00	6.00	4.16	1.08	-0.25	-0.26
IR1	1653	1.00	6.00	4.47	1.16	-0.46	-0.09
IR2	1653	1.00	6.00	4.76	1.17	-0.71	-0.04
IR3	1653	1.00	6.00	4.78	1.15	-0.69	-0.10
IR4	1653	1.00	6.00	4.62	1.24	-0.68	-0.06
IR	1653	1.25	6.00	4.66	0.97	-0.37	-0.47
OJ1	1653	1.00	6.00	4.11	1.47	-0.46	-0.58
OJ2	1653	1.00	6.00	4.41	1.34	-0.62	-0.14
OJ3	1653	1.00	6.00	4.51	1.31	-0.70	-0.02
OJ	1653	1.00	6.00	4.34	1.19	-0.35	-0.37
JR	1653	1.55	6.00	4.48	0.81	-0.35	0.02
WO1	1653	1.00	6.00	4.82	1.08	-0.75	0.42
WO2	1653	1.00	6.00	4.64	1.20	-0.84	0.60
WO3	1653	1.00	6.00	4.46	1.28	-0.63	-0.06
WO	1653	1.00	6.00	4.64	1.03	-0.59	0.38
WHC1	1653	1.00	6.00	4.08	1.54	-0.45	-0.74
WHC2	1653	1.00	6.00	3.82	1.54	-0.26	-0.84
WHC3	1653	1.00	6.00	3.40	1.55	0.05	-0.91
WHC	1653	1.00	6.00	3.77	1.36	-0.21	-0.57
RS1	1653	1.00	6.00	4.09	1.54	-0.44	-0.75
RS2	1653	1.00	6.00	4.23	1.55	-0.58	-0.63
RS3	1653	1.00	6.00	3.73	1.59	-0.16	-1.00
RS	1653	1.00	6.00	4.02	1.39	-0.41	-0.52
PPD1	1653	1.00	6.00	1.97	1.15	1.09	0.65
PPD2	1653	1.00	6.00	1.69	0.97	1.50	2.13
PPD	1653	1.00	6.00	1.83	0.96	1.11	0.80
WV1	1653	1.00	6.00	2.60	1.20	0.53	0.01
WV2	1653	1.00	6.00	1.76	1.07	1.59	2.47
WV3	1653	1.00	6.00	1.52	1.00	2.24	4.94
WV4	1653	1.00	6.00	1.90	1.11	1.30	1.41
WV5	1653	1.00	6.00	2.25	1.13	0.81	0.43
WV6	1653	1.00	6.00	1.97	1.08	1.18	1.32
WV7	1653	1.00	6.00	1.75	1.03	1.59	2.58
WV	1653	1.00	6.00	1.96	0.94	1.47	2.72
JD	1653	1.00	5.80	3.24	0.84	0.13	-0.14

Table a.2 EFA of job resource scale

Item	Component						Communalities
	1	2	3	4	5	6	
PJF1	0.818						0.756
PJF2	0.806						0.769
PJF3	0.660						0.678
PJF4	0.787						0.732
IR1		0.637					0.617
IR2		0.731					0.692
IR3		0.820					0.755
IR4		0.789					0.714
PCO1			0.823				0.748
PCO2			0.788				0.774
PCO3			0.800				0.757
OJ1				0.711			0.705
OJ2				0.847			0.833
OJ3				0.792			0.745
POS1					0.803		0.798
POS2					0.860		0.841
JA1						0.827	0.793
JA2						0.749	0.753
Eigenvalue	2.847	2.693	2.309	2.229	1.703	1.679	
% of Variance	15.816	14.961	12.830	12.383	9.459	9.329	
Cumulative %	15.816	30.777	43.608	55.991	65.450	74.779	

Table a.3 Reliability of the scale of job resources

Item	Mean	Std. Deviation	CITC	CAID	Cronbach's Alpha	N of Items
PCO1	4.50	1.189	0.661	0.801	0.833	3
PCO2	4.56	1.205	0.715	0.748		
PCO3	4.47	1.263	0.707	0.756		
PJF1	4.71	1.132	0.723	0.829	0.867	4
PJF2	4.88	1.031	0.758	0.818		
PJF3	4.63	1.226	0.678	0.850		
PJF4	4.70	1.142	0.725	0.827		
JA1	4.01	1.360	0.580		0.733	2
JA2	4.59	1.255	0.580			
POS1	4.01	1.507	0.641		0.780	2
POS2	4.05	1.428	0.641			
OSP					0.781	4
IR1	4.47	1.158	0.625	0.818	0.840	4
IR2	4.76	1.171	0.691	0.790		
IR3	4.78	1.146	0.698	0.787		
IR4	4.62	1.242	0.681	0.794		
OJ1	4.11	1.474	0.657	0.805	0.831	3
OJ2	4.41	1.339	0.762	0.695		
OJ3	4.51	1.309	0.660	0.796		
JR					0.915	18

Table a.4 Model fit of CFA of job resource scale

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	727.312	120	6.061	0.055	0.036	0.959	0.948
Criteria			<5	<0.08	<0.08	>0.9	>0.9

Table a.5 CFA of job resource

Road			Standard	Unstandard	S.E.	t	p	CR	AVE
PCO1	←	PCO	0.726	1.000				0.834	0.626
PCO2	←	PCO	0.837	1.169	0.039	29.906	0.000		
PCO3	←	PCO	0.807	1.181	0.040	29.724	0.000		
PJF1	←	PJF	0.782	1.000				0.871	0.628
PJF2	←	PJF	0.827	0.963	0.027	35.261	0.000		
PJF3	←	PJF	0.770	1.067	0.034	31.438	0.000		
PJF4	←	PJF	0.789	1.018	0.030	33.439	0.000		
JA1	←	JA	0.712	1.000				0.737	0.585
JA2	←	JA	0.814	1.054	0.043	24.266	0.000		
POS1	←	POS	0.843	1.000				0.783	0.644
POS2	←	POS	0.760	0.854	0.035	24.546	0.000		
IR1	←	IR	0.724	1.000				0.841	0.570
IR2	←	IR	0.784	1.095	0.038	28.917	0.000		
IR3	←	IR	0.759	1.037	0.037	27.750	0.000		
IR4	←	IR	0.751	1.112	0.040	27.520	0.000		
OJ1	←	OJ	0.771	1.000				0.838	0.634
OJ2	←	OJ	0.856	1.008	0.031	32.702	0.000		
OJ3	←	OJ	0.758	0.873	0.030	29.107	0.000		

Table a.6 EFA of job demand scale

Item	Component					Communalities
	1	2	3	4	5	
WV1	0.719					0.612
WV2	0.861					0.798
WV3	0.811					0.711
WV4	0.869					0.825
WV5	0.814					0.756
WV6	0.851					0.804
WV7	0.853					0.799
RS1		0.846				0.808
RS2		0.865				0.838
RS3		0.786				0.735
WHC1			0.802			0.783
WHC2			0.819			0.800
WHC3			0.783			0.762
WO1				0.813		0.708
WO2				0.824		0.786
WO3				0.819		0.756
PPD1					0.799	0.802
PPD2					0.848	0.840
Eigenvalue	5.218	2.449	2.342	2.296	1.619	
% of Variance	28.991	13.603	13.011	12.754	8.995	
Cumulative %	28.991	42.594	55.606	68.360	77.355	

Table a.7 Reliability of the scale of job demands

Item	Mean	Std. Deviation	CITC	CAID	Cronbach's Alpha	N of Items
WO1	4.82	1.078	0.630	0.817	0.828	3
WO2	4.64	1.197	0.736	0.712		
WO3	4.46	1.281	0.704	0.748		
WHC1	4.08	1.537	0.735	0.805	0.860	3
WHC2	3.82	1.538	0.752	0.788		
WHC3	3.40	1.546	0.719	0.819		
RS1	4.09	1.541	0.758	0.810	0.870	3
RS2	4.23	1.547	0.793	0.778		
RS3	3.73	1.592	0.704	0.860		
PPD1	1.97	1.150	0.654		0.784	2
PPD2	1.69	0.970	0.654			
WV1	2.60	1.203	0.699	0.945	0.943	7
WV2	1.76	1.068	0.842	0.931		
WV3	1.52	1.001	0.762	0.938		
WV4	1.90	1.109	0.867	0.929		
WV5	2.25	1.131	0.823	0.933		
WV6	1.97	1.081	0.853	0.930		
WV7	1.75	1.035	0.842	0.931		
JD					0.919	18

Table a.8 Model fit of CFA of job demand scale

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	967.673	125	7.741	0.064	0.029	0.959	0.950
Criteria			<5	<0.08	<0.08	>0.9	>0.9

Table a.9 CFA of job demand scale

Road			Standard	Unstandard	S.E.	t	p	CR	AVE
WO1	←	WO	0.694	1.000				0.832	0.625
WO2	←	WO	0.863	1.380	0.048	28.812	0.000		
WO3	←	WO	0.805	1.377	0.049	28.133	0.000		
WHC1	←	WHC	0.820	1.000				0.860	0.673
WHC2	←	WHC	0.836	1.021	0.028	36.675	0.000		
WHC3	←	WHC	0.804	0.986	0.028	34.646	0.000		
RS1	←	RS	0.845	1.000				0.873	0.697
RS2	←	RS	0.884	1.050	0.025	41.292	0.000		
RS3	←	RS	0.772	0.944	0.027	34.868	0.000		
PPD1	←	PPD	0.839	1.000				0.792	0.655
PPD2	←	PPD	0.779	0.783	0.031	25.108	0.000		
WV1	←	WV	0.721	1.000				0.945	0.711
WV2	←	WV	0.864	1.064	0.030	34.944	0.000		
WV3	←	WV	0.806	0.930	0.029	32.179	0.000		
WV4	←	WV	0.896	1.146	0.032	36.377	0.000		
WV5	←	WV	0.841	1.097	0.032	34.432	0.000		
WV6	←	WV	0.883	1.101	0.031	35.863	0.000		
WV7	←	WV	0.879	1.049	0.030	35.411	0.000		

Table a.10 EFA of job engagement scale

Item	Component			Communalities
	1	2	3	
VIG1	0.844			0.805
VIG2	0.846			0.827
VIG3	0.765			0.713
ABS1		0.793		0.751
ABS2		0.834		0.808
ABS3		0.846		0.783
DED1			0.836	0.808
DED2			0.805	0.791
DED3			0.822	0.769
Eigenvalue	2.358	2.350	2.347	
% of Variance	26.197	26.115	26.074	
Cumulative %	26.197	52.311	78.385	

Table a.11 Reliability of the scale of job engagement

Item	Mean	Std. Deviation	CITC	CAID	Cronbach's Alpha	N of Items
VIG1	4.34	1.329	0.742	0.782	0.853	3
VIG2	4.22	1.350	0.772	0.753		
VIG3	3.75	1.584	0.676	0.854		
DED1	4.57	1.273	0.761	0.793	0.863	3
DED2	4.17	1.393	0.753	0.796		
DED3	4.53	1.400	0.712	0.835		
ABS1	3.60	1.600	0.708	0.820	0.855	3
ABS2	4.20	1.431	0.763	0.767		
ABS3	4.01	1.489	0.718	0.807		
JE					0.895	9

Table a.12 Model fitting of CFA of job engagement scale

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	109.695	24	4.571	0.046	0.024	0.99	0.985
Criteria			<5	<0.08	<0.08	>0.9	>0.9

Table a.13 CFA of job engagement scale

Road			Standard	Unstandard	S.E.	t	p	CR	AVE
VIG1	←	VIG	0.837	1.000				0.863	0.677
VIG2	←	VIG	0.878	1.065	0.026	40.413	0.000		
VIG3	←	VIG	0.749	1.066	0.032	33.034	0.000		
DED1	←	DED	0.844	1.000				0.865	0.682
DED2	←	DED	0.853	1.106	0.029	38.774	0.000		
DED3	←	DED	0.779	1.016	0.029	35.278	0.000		
ABS1	←	ABS	0.794	1.000				0.858	0.669
ABS2	←	ABS	0.864	0.973	0.028	35.245	0.000		
ABS3	←	ABS	0.793	0.929	0.028	33.050	0.000		

Table a.14 EFA of job burnout scale

Item	Component 1	Communalities
JB1	0.775	0.601
JB2	0.808	0.653
JB3	0.745	0.555
JB4	0.754	0.569
JB5	0.839	0.704
JB6	0.795	0.633
JB7	0.757	0.573
Eigenvalue	4.288	
% of Variance	61.263	
Cumulative %	61.263	

Table a.15 Reliability of the scale of job burnout

Item	Mean	Std. Deviation	CITC	CAID	Cronbach's Alpha	N of Items
JB1	3.67	1.501	0.686	0.880	0.894	7
JB2	3.06	1.487	0.724	0.875		
JB3	2.82	1.419	0.649	0.884		
JB4	3.43	1.530	0.661	0.883		
JB5	3.14	1.561	0.764	0.870		
JB6	2.74	1.453	0.709	0.877		
JB7	3.05	1.553	0.664	0.882		

Table a.16 Model fitting of CFA of job burnout scale

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	153.173	14	10.941	0.078	0.023	0.976	0.963
Criteria			<5	<0.08	<0.08	>0.9	>0.9

Table a.17 CFA of job burnout scale

Road			Standard	Unstandard	S.E.	t	p	CR	AVE
JB1	←	JB	0.729	1.000				0.895	0.549
JB2	←	JB	0.773	1.050	0.034	30.494	0.000		
JB3	←	JB	0.688	0.893	0.033	26.915	0.000		
JB4	←	JB	0.702	0.982	0.036	27.611	0.000		
JB5	←	JB	0.819	1.169	0.037	32.011	0.000		
JB6	←	JB	0.757	1.006	0.035	29.074	0.000		
JB7	←	JB	0.710	1.007	0.036	27.610	0.000		

Table a.18 EFA of Confucian coping scale

Item	Component				Communalities
	1	2	3	4	
AIG1	0.672				0.673
AIG2	0.781				0.778
AIG3	0.665				0.532
AIG4	0.770				0.696
AIG5	0.745				0.677
RH1		0.730			0.666
RH2		0.728			0.627
RH3		0.704			0.619
RH4		0.765			0.718
OA1			0.783		0.685
OA2			0.824		0.764
OA3			0.815		0.746
VF1				0.717	0.632
VF2				0.760	0.717
VF3				0.735	0.720
Eigenvalue	3.025	2.550	2.526	2.147	
% of Variance	20.164	17.001	16.842	14.314	
Cumulative %	20.164	37.165	54.007	68.321	

Table a.19 Reliability analysis of Confucian coping scale

Item	Mean	Std. Deviation	CITC	CAID	Cronbach's Alpha	N of Items
OA1	4.62	1.260	0.641	0.823	0.830	3
OA2	4.87	1.079	0.726	0.834		
OA3	5.00	1.125	0.713	0.743		
VF1	2.96	1.533	0.568	0.786	0.789	3
VF2	2.35	1.421	0.664	0.678		
VF3	2.39	1.399	0.664	0.679		
RH1	4.03	1.287	0.653	0.724	0.797	4
RH2	5.33	1.214	0.583	0.759		
RH3	4.35	1.538	0.588	0.769		
RH4	4.94	1.117	0.644	0.736		
AIG1	4.84	1.193	0.663	0.816	0.847	5
AIG2	4.67	1.315	0.787	0.781		
AIG3	4.09	1.517	0.504	0.859		
AIG4	4.08	1.482	0.712	0.799		
AIG5	4.16	1.380	0.644	0.818		
CC					0.899	15

Table a.20 Model fitting of Confucian coping scale

Fit	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
Model	809.53	84	9.637	0.072	0.041	0.939	0.923
Criteria			<5	<0.08	<0.08	>0.9	>0.9

Table a.21 CFA of Confucian coping scale

	Road		Standard	Unstandard	S.E.	t	p	CR	AVE
OA1	←	OA	0.715	1.000				0.838	0.634
OA2	←	OA	0.842	1.009	0.034	29.849	0.000		
OA3	←	OA	0.825	1.029	0.035	29.522	0.000		
VF1	←	VF	0.662	1.000				0.797	0.569
VF2	←	VF	0.782	1.094	0.043	25.595	0.000		
VF3	←	VF	0.810	1.116	0.043	25.765	0.000		
RH1	←	RH	0.754	1.000				0.806	0.511
RH2	←	RH	0.680	0.851	0.035	24.575	0.000		
RH3	←	RH	0.661	1.048	0.041	25.287	0.000		
RH4	←	RH	0.758	0.873	0.031	28.016	0.000		
AIG1	←	AIG	0.773	1.000				0.857	0.550
AIG2	←	AIG	0.872	1.243	0.035	36.008	0.000		
AIG3	←	AIG	0.550	0.905	0.042	21.421	0.000		
AIG4	←	AIG	0.757	1.216	0.040	30.640	0.000		
AIG5	←	AIG	0.717	1.073	0.036	30.012	0.000		

Table a.22 Discriminant validity of the dimensional variables

	PCO	PJF	JA	POS	IR	OJ	WO	WHC	RS	PPD	WV	VIG	DED	ABS	JB	OA	VF	RH	AIG
PCO	0.791																		
PJF	.499**	0.792																	
JA	.413**	.443**	0.765																
POS	.352**	.424**	.502**	0.802															
IR	.455**	.531**	.482**	.439**	0.755														
OJ	.426**	.527**	.464**	.423**	.508**	0.796													
WO	-.164**	-.203**	-.182**	-.133**	-.207**	-.199**	0.791												
WHC	-.253**	-.275**	-.273**	-.210**	-.277**	-.266**	.429**	0.820											
RS	-.233**	-.234**	-.225**	-.158**	-.241**	-.246**	.407**	.506**	0.835										
PPD	-.255**	-.266**	-.281**	-.212**	-.269**	-.285**	.340**	.481**	.376**	0.809									
WV	-.270**	-.274**	-.245**	-.211**	-.283**	-.278**	.371**	.471**	.395**	.476**	0.843								
VIG	.338**	.369**	.319**	.299**	.366**	.367**	-.326**	-.364**	-.356**	-.334**	-.348**	0.823							
DED	.356**	.352**	.312**	.289**	.346**	.344**	-.297**	-.373**	-.360**	-.354**	-.336**	.577**	0.826						
ABS	.334**	.352**	.315**	.283**	.345**	.345**	-.302**	-.369**	-.326**	-.338**	-.324**	.537**	.539**	0.818					
JB	-.420**	-.482**	-.439**	-.378**	-.483**	-.473**	.417**	.469**	.428**	.436*	.452**	-.479**	-.489**	-.470**	0.741				
OA	.290**	.297**	.302**	.294**	.334**	.310**	-.213**	-.293**	-.272**	-.260**	-.279**	.346**	.310**	.314**	-.400**	0.796			
VF	-.263**	-.289**	-.288**	-.262**	-.313**	-.320**	.174**	.251**	.232**	.251**	.238**	-.323**	-.282**	-.307**	.377**	-.427**	0.754		
RH	.287**	.284**	.273**	.263**	.292**	.281**	-.198**	-.271**	-.229**	-.265**	-.287**	.280**	.297**	.281**	-.362**	.473**	-.558**	0.715	
AIG	.265**	.295**	.294**	.277**	.309**	.305**	-.196**	-.241**	-.232**	-.263**	-.245**	.318**	.291**	.282**	-.358**	.450**	-.586**	.477**	0.742

Note: * $p < 0.05$, ** $p < 0.01$.

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Table a.23 Independent sample T-test results of different sex groups

Variable	Attribute	N	Mean	Std. Deviation	t	p
PCO	Male	392	4.552	1.061	0.895	0.371
	Female	1261	4.497	1.055		
PJF	Male	392	4.849	0.985	2.823	0.005**
	Female	1261	4.693	0.949		
JA	Male	392	4.409	1.155	2.159	0.031*
	Female	1261	4.264	1.163		
POS	Male	392	4.148	1.362	2.076	0.038*
	Female	1261	3.989	1.318		
OSP	Male	392	4.279	1.101	2.440	0.015*
	Female	1261	4.126	1.072		
IR	Male	392	4.738	0.993	1.871	0.062
	Female	1261	4.633	0.962		
OJ	Male	392	4.418	1.261	1.436	0.151
	Female	1261	4.319	1.166		
JR	Male	392	4.567	0.829	2.424	0.015*
	Female	1261	4.454	0.802		
WO	Male	392	4.656	1.093	0.394	0.694
	Female	1261	4.633	1.004		
WHC	Male	392	3.787	1.388	0.307	0.759
	Female	1261	3.762	1.354		
RS	Male	392	3.949	1.358	-1.086	0.278
	Female	1261	4.036	1.399		
PPD	Male	392	1.778	0.920	-1.221	0.222
	Female	1261	1.846	0.978		
WV	Male	392	1.954	0.952	-0.225	0.822
	Female	1261	1.967	0.939		
JD	Male	392	3.225	0.804	-0.493	0.622
	Female	1261	3.249	0.853		
CC	Male	392	4.684	0.826	2.972	0.003**
	Female	1261	4.538	0.862		
JE	Male	392	4.359	1.059	4.426	0.000**
	Female	1261	4.090	1.047		
JB	Male	392	3.004	1.168	-2.397	0.017*
	Female	1261	3.167	1.174		

Note: *$p < 0.05$, **$p < 0.01$

Table a.24 Independent sample T-test results of different employment type groups

Variable	Attribute	N	Mean	Std. Deviation	t	p
PCO	Regular	805	4.591	1.023	3.050	0.002**
	Contract	848	4.433	1.082		
PJF	Regular	805	4.799	0.955	2.861	0.004**
	Contract	848	4.664	0.961		
JA	Regular	805	4.326	1.162	0.928	0.353
	Contract	848	4.273	1.162		
POS	Regular	805	4.084	1.299	1.734	0.083
	Contract	848	3.971	1.356		
OSP	Regular	805	4.205	1.064	1.566	0.118
	Contract	848	4.122	1.095		
IR	Regular	805	4.759	0.946	4.137	0.000**
	Contract	848	4.562	0.983		
OJ	Regular	805	4.420	1.178	2.591	0.010*
	Contract	848	4.268	1.197		
JR	Regular	805	4.555	0.794	3.647	0.000**
	Contract	848	4.410	0.819		
WO	Regular	805	4.667	1.021	1.083	0.279
	Contract	848	4.612	1.029		
WHC	Regular	805	3.780	1.356	0.338	0.736
	Contract	848	3.757	1.368		
RS	Regular	805	4.065	1.372	1.399	0.162
	Contract	848	3.969	1.405		
PPD	Regular	805	1.835	0.945	0.196	0.845
	Contract	848	1.825	0.983		
WV	Regular	805	1.928	0.854	-1.501	0.134
	Contract	848	1.998	1.017		
JD	Regular	805	3.255	0.808	0.544	0.586
	Contract	848	3.232	0.872		
CC	Regular	805	4.601	0.834	1.315	0.189
	Contract	848	4.546	0.875		
JE	Regular	805	4.232	1.043	2.955	0.003**
	Contract	848	4.079	1.063		
JB	Regular	805	3.047	1.155	-2.755	0.006**
	Contract	848	3.206	1.188		

Note: $*p < 0.05$, $**p < 0.01$

Table a.25 Independent sample T-test results of different educational groups

Variable	Attribute	N	Mean	Std. Deviation	t	p
PCO	Bachelor degree or below	1394	4.528	1.073	1.633	0.103
	Master degree or above	259	4.412	0.955		
PJF	Bachelor degree or below	1394	4.740	0.964	0.984	0.325
	Master degree or above	259	4.676	0.939		
JA	Bachelor degree or below	1394	4.317	1.166	1.479	0.139
	Master degree or above	259	4.201	1.140		
POS	Bachelor degree or below	1394	4.037	1.343	0.754	0.451
	Master degree or above	259	3.969	1.255		
OSP	Bachelor degree or below	1394	4.177	1.094	1.260	0.208
	Master degree or above	259	4.085	1.004		
IR	Bachelor degree or below	1394	4.667	0.983	0.882	0.378
	Master degree or above	259	4.609	0.893		
OJ	Bachelor degree or below	1394	4.365	1.192	1.839	0.066
	Master degree or above	259	4.218	1.169		
JR	Bachelor degree or below	1394	4.495	0.823	1.747	0.081
	Master degree or above	259	4.400	0.730		
WO	Bachelor degree or below	1394	4.624	1.031	-1.337	0.181
	Master degree or above	259	4.717	0.991		
WHC	Bachelor degree or below	1394	3.746	1.364	-1.561	0.119
	Master degree or above	259	3.889	1.345		
RS	Bachelor degree or below	1394	3.986	1.392	-1.981	0.048*
	Master degree or above	259	4.172	1.371		
PPD	Bachelor degree or below	1394	1.813	0.964	-1.652	0.099
	Master degree or above	259	1.921	0.962		
WV	Bachelor degree or below	1394	1.966	0.941	0.219	0.827
	Master degree or above	259	1.952	0.948		
JD	Bachelor degree or below	1394	3.227	0.849	-1.815	0.070
	Master degree or above	259	3.330	0.794		
CC	Bachelor degree or below	1394	4.598	0.857	2.873	0.004**
	Master degree or above	259	4.433	0.836		
JE	Bachelor degree or below	1394	4.181	1.068	2.451	0.014*
	Master degree or above	259	4.006	0.974		
JB	Bachelor degree or below	1394	3.110	1.181	-1.502	0.133
	Master degree or above	259	3.229	1.131		

Note: $*p < 0.05$, $**p < 0.01$

Table a.26 Independent sample T-test results of physicians and nurses

Variable	Attribute	N	Mean	Std. Deviation	t	p
PCO	Doctor	517	4.511	1.029	0.803	0.422
	Nurse	960	4.465	1.085		
PJF	Doctor	517	4.766	0.968	1.985	0.047*
	Nurse	960	4.661	0.963		
JA	Doctor	517	4.297	1.149	0.384	0.701
	Nurse	960	4.272	1.183		
POS	Doctor	517	4.002	1.283	-0.017	0.987
	Nurse	960	4.003	1.339		
PCS	Doctor	517	4.149	1.033	0.198	0.843
	Nurse	960	4.138	1.105		
IR	Doctor	517	4.700	0.926	2.082	0.038*
	Nurse	960	4.589	0.999		
OJ	Doctor	517	4.337	1.177	0.773	0.440
	Nurse	960	4.286	1.207		
JR	Doctor	517	4.493	0.770	1.461	0.144
	Nurse	960	4.428	0.835		
WO	Doctor	517	4.683	1.015	0.397	0.692
	Nurse	960	4.661	1.016		
WHC	Doctor	517	3.836	1.324	0.426	0.670
	Nurse	960	3.804	1.367		
RS	Doctor	517	4.093	1.345	0.766	0.444
	Nurse	960	4.036	1.402		
PPD	Doctor	517	1.809	0.902	-1.133	0.257
	Nurse	960	1.869	1.012		
WV	Doctor	517	1.934	0.902	-1.970	0.049*
	Nurse	960	2.037	0.981		
JD	Doctor	517	3.271	0.768	-0.224	0.823
	Nurse	960	3.281	0.883		
CC	Doctor	517	4.552	0.843	0.291	0.771
	Nurse	960	4.538	0.879		
JE	Doctor	517	4.191	1.015	1.863	0.063
	Nurse	960	4.083	1.084		
JB	Doctor	517	3.077	1.106	-2.472	0.014*
	Nurse	960	3.235	1.205		

Note: *$p < 0.05$, **$p < 0.01$

Table a.27 The results of One-way ANOVA for different age groups

Variable	Attribute	N	Mean	Std. Deviation	F	p
PCO	Under 30	419	4.413	1.057	3.617	0.013*
	30~40	908	4.506	1.068		
	41~50	236	4.597	1.039		
	Above 51	90	4.774	0.918		
PJF	Under 30	419	4.622	0.978	4.314	0.005**
	30~40	908	4.729	0.967		
	41~50	236	4.838	0.922		
	Above 51	90	4.947	0.834		
JA	Under 30	419	4.279	1.109	0.872	0.455
	30~40	908	4.276	1.200		
	41~50	236	4.407	1.132		
	Above 51	90	4.339	1.099		
POS	Under 30	419	3.928	1.290	1.400	0.241
	30~40	908	4.035	1.362		
	41~50	236	4.129	1.263		
	Above 51	90	4.122	1.344		
OSP	Under 30	419	4.104	1.035	1.294	0.275
	30~40	908	4.156	1.122		
	41~50	236	4.268	1.034		
	Above 51	90	4.231	0.960		
IR	Under 30	419	4.534	0.962	9.386	0.000**
	30~40	908	4.636	0.990		
	41~50	236	4.817	0.924		
	Above 51	90	5.042	0.760		
OJ	Under 30	419	4.224	1.200	4.100	0.007**
	30~40	908	4.332	1.193		
	41~50	236	4.497	1.189		
	Above 51	90	4.593	1.031		
JR	Under 30	419	4.379	0.802	6.660	0.000**
	30~40	908	4.472	0.832		
	41~50	236	4.603	0.753		
	Above 51	90	4.717	0.673		
WO	Under 30	419	4.683	1.018	1.524	0.206
	30~40	908	4.645	1.036		
	41~50	236	4.614	0.987		
	Above 51	90	4.433	1.038		
WHC	Under 30	419	3.854	1.358	2.422	0.064
	30~40	908	3.782	1.381		
	41~50	236	3.561	1.355		
	Above 51	90	3.774	1.147		
RS	Under 30	419	4.088	1.398	0.597	0.617
	30~40	908	3.994	1.419		
	41~50	236	4.008	1.287		
	Above 51	90	3.919	1.319		
PPD	Under 30	419	1.897	1.000	1.866	0.133
	30~40	908	1.834	0.982		
	41~50	236	1.744	0.850		
	Above 51	90	1.700	0.883		
WV	Under 30	419	2.043	1.012	3.302	0.020*
	30~40	908	1.973	0.961		
	41~50	236	1.869	0.784		
	Above 51	90	1.754	0.714		

JD	Under 30	419	3.313	0.871	2.440	0.063
	30~40	908	3.245	0.857		
	41~50	236	3.159	0.762		
	Above 51	90	3.116	0.712		
CC	Under 30	419	4.475	0.875	2.995	0.030*
	30~40	908	4.588	0.861		
	41~50	236	4.647	0.804		
	Above 51	90	4.678	0.808		
JE	Under 30	419	3.947	1.030	14.630	0.000**
	30~40	908	4.148	1.074		
	41~50	236	4.369	0.986		
	Above 51	90	4.612	0.915		
JB	Under 30	419	3.205	1.120	3.481	0.015*
	30~40	908	3.157	1.220		
	41~50	236	2.983	1.125		
	Above 51	90	2.867	1.015		

Note: *$p < 0.05$, **$p < 0.01$

Table a.28 The results of One-way ANOVA for different working years

Variable	Attribute	N	Mean	Std. Deviation	F	p
PCO	5 years or below	396	4.445	1.079	3.694	0.011*
	5-9 years	425	4.426	1.042		
	10-15 years	477	4.532	1.080		
	More than 16 years	355	4.654	1.001		
PJF	5 years or below	396	4.688	0.982	2.903	0.034*
	5-9 years	425	4.673	0.985		
	10-15 years	477	4.719	0.949		
	More than 16 years	355	4.858	0.911		
JA	5 years or below	396	4.301	1.148	2.047	0.105
	5-9 years	425	4.225	1.180		
	10-15 years	477	4.270	1.170		
	More than 16 years	355	4.424	1.141		
POS	5 years or below	396	3.946	1.330	1.522	0.207
	5-9 years	425	3.988	1.377		
	10-15 years	477	4.041	1.308		
	More than 16 years	355	4.142	1.296		
OSP	5 years or below	396	4.123	1.070	2.041	0.106
	5-9 years	425	4.106	1.107		
	10-15 years	477	4.156	1.102		
	More than 16 years	355	4.283	1.024		
IR	5 years or below	396	4.575	0.955	6.989	0.000**
	5-9 years	425	4.572	1.026		
	10-15 years	477	4.657	0.947		
	More than 16 years	355	4.854	0.922		
OJ	5 years or below	396	4.330	1.206	4.646	0.003**
	5-9 years	425	4.219	1.254		
	10-15 years	477	4.321	1.163		
	More than 16 years	355	4.532	1.106		
JR	5 years or below	396	4.432	0.804	6.348	0.000**
	5-9 years	425	4.399	0.847		
	10-15 years	477	4.477	0.812		
	More than 16 years	355	4.637	0.749		
WO	5 years or below	396	4.652	1.000	1.300	0.273
	5-9 years	425	4.707	1.012		
	10-15 years	477	4.621	1.073		
	More than 16 years	355	4.565	1.003		
WHC	5 years or below	396	3.715	1.332	5.895	0.001**
	5-9 years	425	3.977	1.354		
	10-15 years	477	3.767	1.386		
	More than 16 years	355	3.578	1.343		
RS	5 years or below	396	4.030	1.362	2.726	0.043*
	5-9 years	425	4.155	1.397		
	10-15 years	477	3.982	1.416		
	More than 16 years	355	3.877	1.365		
PPD	5 years or below	396	1.814	0.953	4.539	0.004**
	5-9 years	425	1.967	1.041		
	10-15 years	477	1.801	0.956		
	More than 16 years	355	1.723	0.874		
WV	5 years or below	396	1.953	0.964	5.341	0.001**
	5-9 years	425	2.105	1.041		
	10-15 years	477	1.937	0.923		
	More than 16 years	355	1.843	0.786		

JD	5 years or below	396	3.233	0.805	6.720	0.000**
	5-9 years	425	3.382	0.881		
	10-15 years	477	3.222	0.866		
	More than 16 years	355	3.117	0.776		
CC	5 years or below	396	4.507	0.893	4.151	0.006**
	5-9 years	425	4.545	0.851		
	10-15 years	477	4.549	0.852		
	More than 16 years	355	4.710	0.810		
JE	5 years or below	396	4.072	1.026	13.229	0.000**
	5-9 years	425	3.990	1.061		
	10-15 years	477	4.155	1.080		
	More than 16 years	355	4.440	0.994		
JB	5 years or below	396	3.092	1.150	5.590	0.001**
	5-9 years	425	3.282	1.212		
	10-15 years	477	3.158	1.195		
	More than 16 years	355	2.945	1.101		

Note: $*p < 0.05$, $**p < 0.01$

Table a.29 The results of One-way ANOVA for different professional titles

Variable	Attribute	N	Mean	Std. Deviation	F	p
PCO	No title	112	4.378	1.121	3.535	0.014*
	Primary professional titles	679	4.459	1.069		
	Intermediate professional titles	575	4.514	1.070		
	Senior professional title	287	4.677	0.951		
PJF	No title	112	4.449	1.002	5.516	0.001**
	Primary professional titles	679	4.718	0.969		
	Intermediate professional titles	575	4.725	0.969		
	Senior professional title	287	4.876	0.878		
JA	No title	112	4.134	1.097	1.222	0.300
	Primary professional titles	679	4.311	1.180		
	Intermediate professional titles	575	4.279	1.201		
	Senior professional title	287	4.373	1.059		
POS	No title	112	3.688	1.254	3.797	0.010*
	Primary professional titles	679	4.013	1.365		
	Intermediate professional titles	575	4.030	1.329		
	Senior professional title	287	4.183	1.253		
OSP	No title	112	3.911	1.010	3.140	0.024*
	Primary professional titles	679	4.162	1.110		
	Intermediate professional titles	575	4.155	1.112		
	Senior professional title	287	4.278	0.953		
IR	No title	112	4.460	0.981	9.715	0.000**
	Primary professional titles	679	4.591	0.989		
	Intermediate professional titles	575	4.646	0.982		
	Senior professional title	287	4.918	0.843		
OJ	No title	112	4.167	1.145	4.149	0.006**
	Primary professional titles	679	4.299	1.225		
	Intermediate professional titles	575	4.322	1.195		
	Senior professional title	287	4.552	1.087		
JR	No title	112	4.273	0.789	7.697	0.000**
	Primary professional titles	679	4.446	0.833		
	Intermediate professional titles	575	4.472	0.833		
	Senior professional title	287	4.660	0.676		
WO	No title	112	4.685	1.046	0.531	0.661
	Primary professional titles	679	4.652	1.014		
	Intermediate professional titles	575	4.597	1.085		
	Senior professional title	287	4.672	0.916		
WHC	No title	112	3.988	1.242	1.907	0.126
	Primary professional titles	679	3.788	1.366		
	Intermediate professional titles	575	3.766	1.429		
	Senior professional title	287	3.638	1.247		
RS	No title	112	4.232	1.367	1.996	0.113
	Primary professional titles	679	3.966	1.402		
	Intermediate professional titles	575	4.078	1.425		
	Senior professional title	287	3.925	1.288		
PPD	No title	112	1.924	1.007	1.411	0.238
	Primary professional titles	679	1.870	1.021		
	Intermediate professional titles	575	1.796	0.939		
	Senior professional title	287	1.767	0.850		
WV	No title	112	2.121	1.019	6.115	0.000**
	Primary professional titles	679	2.036	1.016		
	Intermediate professional titles	575	1.938	0.913		
	Senior professional title	287	1.782	0.738		

JD	No title	112	3.390	0.834	2.289	0.077
	Primary professional titles	679	3.262	0.872		
	Intermediate professional titles	575	3.235	0.860		
	Senior professional title	287	3.157	0.717		
CC	No title	112	4.397	0.862	3.081	0.027*
	Primary professional titles	679	4.539	0.868		
	Intermediate professional titles	575	4.606	0.868		
	Senior professional title	287	4.653	0.786		
JE	No title	112	3.892	0.967	11.288	0.000**
	Primary professional titles	679	4.070	1.084		
	Intermediate professional titles	575	4.158	1.082		
	Senior professional title	287	4.446	0.900		
JB	No title	112	3.362	1.128	5.203	0.001**
	Primary professional titles	679	3.191	1.199		
	Intermediate professional titles	575	3.113	1.208		
	Senior professional title	287	2.920	1.029		

Note: *$p < 0.05$, **$p < 0.01$

Table a.30 The results of One-way ANOVA for different working hours

Variable	Attribute	N	Mean	Std. Deviation	F	p
PCO	40 hours or below	208	4.617	1.061	1.378	0.248
	40-49 hours	890	4.508	1.066		
	50-59 hours	286	4.523	1.059		
	More than 60 hours	269	4.420	1.012		
PJF	40 hours or below	208	4.803	0.959	0.486	0.692
	40-49 hours	890	4.718	0.950		
	50-59 hours	286	4.731	0.972		
	More than 60 hours	269	4.709	0.981		
JA	40 hours or below	208	4.421	1.107	2.073	0.102
	40-49 hours	890	4.303	1.160		
	50-59 hours	286	4.327	1.199		
	More than 60 hours	269	4.162	1.164		
POS	40 hours or below	208	4.065	1.386	0.793	0.498
	40-49 hours	890	4.058	1.313		
	50-59 hours	286	3.991	1.357		
	More than 60 hours	269	3.928	1.313		
OSP	40 hours or below	208	4.243	1.083	1.536	0.203
	40-49 hours	890	4.181	1.074		
	50-59 hours	286	4.159	1.091		
	More than 60 hours	269	4.045	1.086		
IR	40 hours or below	208	4.787	0.968	2.851	0.036*
	40-49 hours	890	4.664	0.970		
	50-59 hours	286	4.667	0.973		
	More than 60 hours	269	4.529	0.956		
OJ	40 hours or below	208	4.534	1.171	2.722	0.043*
	40-49 hours	890	4.327	1.181		
	50-59 hours	286	4.360	1.184		
	More than 60 hours	269	4.227	1.225		
JR	40 hours or below	208	4.597	0.821	2.669	0.046*
	40-49 hours	890	4.479	0.813		
	50-59 hours	286	4.488	0.794		
	More than 60 hours	269	4.386	0.799		
WO	40 hours or below	208	4.349	1.153	11.446	0.000**
	40-49 hours	890	4.607	1.000		
	50-59 hours	286	4.725	0.953		
	More than 60 hours	269	4.875	1.017		
WHC	40 hours or below	208	3.559	1.470	8.590	0.000**
	40-49 hours	890	3.681	1.326		
	50-59 hours	286	3.895	1.341		
	More than 60 hours	269	4.083	1.357		
RS	40 hours or below	208	3.790	1.490	3.380	0.018*
	40-49 hours	890	4.018	1.382		
	50-59 hours	286	4.001	1.354		
	More than 60 hours	269	4.197	1.351		
PPD	40 hours or below	208	1.714	0.929	2.758	0.041*
	40-49 hours	890	1.834	0.985		
	50-59 hours	286	1.783	0.884		
	More than 60 hours	269	1.955	0.996		
WV	40 hours or below	208	1.932	0.962	2.920	0.033*
	40-49 hours	890	1.935	0.933		
	50-59 hours	286	1.930	0.893		
	More than 60 hours	269	2.119	0.994		

JD	40 hours or below	208	3.069	0.909	8.704	0.000**
	40-49 hours	890	3.215	0.835		
	50-59 hours	286	3.267	0.763		
	More than 60 hours	269	3.446	0.851		
CC	40 hours or below	208	4.689	0.857	4.290	0.005**
	40-49 hours	890	4.603	0.843		
	50-59 hours	286	4.519	0.865		
	More than 60 hours	269	4.438	0.870		
JE	40 hours or below	208	4.332	1.077	3.367	0.018*
	40-49 hours	890	4.141	1.069		
	50-59 hours	286	4.182	0.993		
	More than 60 hours	269	4.028	1.045		
JB	40 hours or below	208	2.854	1.216	6.758	0.000**
	40-49 hours	890	3.126	1.164		
	50-59 hours	286	3.134	1.139		
	More than 60 hours	269	3.340	1.173		

Note: $*p < 0.05$, $**p < 0.01$

Table a.31 The results of One-way ANOVA for different Night shift per week

Variable	Attribute	N	Mean	Std. Deviation	F	p
PCO	Non	653	4.615	1.005	12.341	0.000**
	1-2 times	788	4.506	1.051		
	More than 3 times	212	4.203	1.168		
PJF	Non	653	4.793	0.928	3.253	0.039*
	1-2 times	788	4.709	0.971		
	More than 3 times	212	4.611	1.003		
JA	Non	653	4.381	1.098	5.187	0.006**
	1-2 times	788	4.288	1.178		
	More than 3 times	212	4.087	1.267		
POS	Non	653	4.155	1.257	7.183	0.001**
	1-2 times	788	3.986	1.354		
	More than 3 times	212	3.778	1.414		
OSP	Non	653	4.268	1.028	8.193	0.000**
	1-2 times	788	4.137	1.080		
	More than 3 times	212	3.933	1.196		
IR	Non	653	4.759	0.949	6.668	0.001**
	1-2 times	788	4.611	0.961		
	More than 3 times	212	4.520	1.039		
OJ	Non	653	4.439	1.135	5.045	0.007**
	1-2 times	788	4.312	1.213		
	More than 3 times	212	4.156	1.242		
JR	Non	653	4.575	0.767	11.164	0.000**
	1-2 times	788	4.455	0.803		
	More than 3 times	212	4.284	0.919		
WO	Non	653	4.595	1.009	3.884	0.021*
	1-2 times	788	4.626	1.041		
	More than 3 times	212	4.818	1.004		
WHC	Non	653	3.594	1.346	13.423	0.000**
	1-2 times	788	3.816	1.382		
	More than 3 times	212	4.127	1.252		
RS	Non	653	3.911	1.332	4.569	0.011*
	1-2 times	788	4.045	1.431		
	More than 3 times	212	4.230	1.382		
PPD	Non	653	1.786	0.942	1.908	0.149
	1-2 times	788	1.839	0.951		
	More than 3 times	212	1.932	1.073		
WV	Non	653	1.863	0.867	9.760	0.000**
	1-2 times	788	1.988	0.935		
	More than 3 times	212	2.182	1.129		
JD	Non	653	3.150	0.800	11.271	0.000**
	1-2 times	788	3.263	0.850		
	More than 3 times	212	3.458	0.893		
CC	Non	653	4.630	0.866	2.644	0.071
	1-2 times	788	4.543	0.850		
	More than 3 times	212	4.504	0.837		
JE	Non	653	4.299	1.040	14.399	0.000**
	1-2 times	788	4.108	1.048		
	More than 3 times	212	3.877	1.065		
JB	Non	653	3.049	1.148	8.772	0.000**
	1-2 times	788	3.112	1.175		
	More than 3 times	212	3.433	1.204		

Note: $*p < 0.05$, $**p < 0.01$

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Annex B: Questionnaire

Dear Sir/Madam,

Thank you for taking time to participate in this research. This is an academic research investigation initiated by the ISCTE-University Institute of Lisbon and the Southern Medical University.

It may take up to 8-10 minutes for you to fill out the questionnaire, and of course you are completely voluntary. Please read each question carefully and express your feelings objectively and truthfully. We solemnly promise that your answers will be kept strictly confidential, handled only by the researchers, and will not be passed on to anyone, including your boss, colleagues and subordinates.

Thank you for your support and cooperation.

Part I Personal information

Please provide some basic information for us to study the classification，Please "√ "in the appropriate information to meet your specific situation.

1.Sex：□Male　□Female

2. Education：□High school　　□Bachelor degree or Tertiary college
　　　　　　□Master degree　□Doctor degree

3.Age：□Under 30　□30-40　□41-50　□51-60　□Above 60

4.Years of working in the current hospital:

□5 years or below　□5-9 years　□10-15 years　□16-20 years

□More than 20 years

5.Position：□Doctor　□Nurse　□Technician　□Pharmacist

6. Professional Title：□No title　　□Primary professional titles

□Intermediate professional titles　□Sub-senior professional title

□Senior professional title

7. Hours worked per week:

□40 hours or below　□40-49 hours　□50-59 hours　□60-69 hours

□70-79 hours　　　□More than 80 hours

8. Number of nights on call per week:

☐Non   ☐1-2 times   ☐3-4 times   ☐More than 5 times

9. Specialty：

☐General internal medicine   ☐General surgery   ☐Pediatrics

☐Obstetrics and gynecology   ☐Emergency medicine

☐Stomatology   ☐Dermatology   ☐Traditional Chinese medicine

☐Ophthalmology   ☐Otorhinolaryngology   ☐Oncology

☐Anesthesiology   ☐Radiology   ☐Laboratory medicine

☐Pharmacy department

10.Way of employing：☐Regular   ☐Contract

Part II Job resources

Please evaluate how well the following corresponds to your actual situation and choose the corresponding figures.	*Totally disagree* ⟶ *Totally agree*
There are career opportunities within my hospital that are attractive to me.	1 2 3 4 5 6
There are job opportunities available within my hospital that are of interest to me.	1 2 3 4 5 6
My hospital offers many job opportunities that match my career goals.	1 2 3 4 5 6
I have a good fit with my job.	1 2 3 4 5 6
The requirements of my new job match my specific talents and skills.	1 2 3 4 5 6
I fit in well with my work environment.	1 2 3 4 5 6
My personality and temperament match my work.	1 2 3 4 5 6
I have decision rights in my work.	1 2 3 4 5 6
The hospital treated me with respect.	1 2 3 4 5 6
My hospital will consult me when making important decisions.	1 2 3 4 5 6
When I wanted to leave, the hospital would hold me back.	1 2 3 4 5 6
I get along well with the department leaders	1 2 3 4 5 6
I get along well with colleagues in the department.	1 2 3 4 5 6
I feel appreciated by the patient I work for.	1 2 3 4 5 6
I get along well with the administrative and logistics	1 2 3 4 5 6

management personnel.

I feel that the rewards I receive from my work are fair.	1 2 3 4 5 6
I feel the formal policies and procedures used to make decisions are fair.	1 2 3 4 5 6
In all aspects of the work environment, I feel that my primary supervisor treats me in a fair manner.	1 2 3 4 5 6

Part III Job demands

Please evaluate how well the following corresponds to your actual situation and choose the corresponding figures.	*Totally disagree* *Totally agree* ———→
I have to work very fast.	1 2 3 4 5 6
I have too much work to do.	1 2 3 4 5 6
I have to work extra hard in order to complete my job.	1 2 3 4 5 6
My work keeps me from spending the amount of time I would like with family or friends.	1 2 3 4 5 6
My work interferes with my responsibilities or activities outside of work.	1 2 3 4 5 6
My work interferes with my ability to develop or maintain connections and friendships in my community.	1 2 3 4 5 6
I was worried about how to complete the research task.	1 2 3 4 5 6
I feel a lot of pressure from my research work.	1 2 3 4 5 6
I was depressed and unhappy about my research work.	1 2 3 4 5 6
People in my city are very cooperative with the public health requirements (wearing masks, social distancing, avoiding crowds).	1 2 3 4 5 6
People in my city are actively vaccinated against COVID-19.	1 2 3 4 5 6
In the past year at work, have you frequently encountered the following situations?	*Never* *Always* ———→
Verbal aggression of patients or family members.	1 2 3 4 5 6
Physical aggression of patients or family members.	1 2 3 4 5 6
Sexual harassment of patients or family members.	1 2 3 4 5 6
Defamation of reputation by patients or their family members.	1 2 3 4 5 6

Patients or family members' harsh difficulties.	1 2 3 4 5 6
Obstruction of work by patients or their family members.	1 2 3 4 5 6
Threats from patients or family members.	1 2 3 4 5 6

Part IV Confucian coping

The following 15 statements are about how you feel the frustration and destiny. Please read each statement carefully and choose how much you agree with each statement.	*Totally disagree* ⟶ *Totally agree*
Feeling hopeful for the future even in the midst of your worst failures.	1 2 3 4 5 6
Always try to learn from setbacks.	1 2 3 4 5 6
When "luck" is bad, we try to develop ourselves and prepare for the future.	1 2 3 4 5 6
Life is the result of the random action of various external factors.	1 2 3 4 5 6
Life is good or bad, is determined by the external, mysterious "fate".	1 2 3 4 5 6
Destiny is mysterious and predetermined.	1 2 3 4 5 6
You are in control of events.	1 2 3 4 5 6
In modern society, a person's moral character is not important.	1 2 3 4 5 6
People are hardly intrinsically good.	1 2 3 4 5 6
Human beings naturally assume social responsibilities.	1 2 3 4 5 6
Without the hone of suffering, there can be no strong will.	1 2 3 4 5 6
Frustration is a bad thing, not a good thing.	1 2 3 4 5 6
Life is too smooth, will not have great promise.	1 2 3 4 5 6
Fear setbacks.	1 2 3 4 5 6
Through a lot of setbacks, to do great things.	1 2 3 4 5 6

Part V Job engagement

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job.	Never $\longrightarrow$ Always					
At my work, I feel bursting with energy.	1	2	3	4	5	6
At my job, I feel strong and vigorous.	1	2	3	4	5	6
When I get up in the morning, I feel like going to work.	1	2	3	4	5	6
I am enthusiastic about my job.	1	2	3	4	5	6
My job inspires me.	1	2	3	4	5	6
I am proud on the work that I do.	1	2	3	4	5	6
I feel happy when I am working intensely.	1	2	3	4	5	6
I am immersed in my work.	1	2	3	4	5	6
I get carried away when I'm working.	1	2	3	4	5	6

Part VI Job burnout

The following 7 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job.	Never $\longrightarrow$ Always					
I feel worn out at the end of the working day.	1	2	3	4	5	6
I feel exhausted in the morning at the thought of another day at work.	1	2	3	4	5	6
I feel that every working hour is tiring for me.	1	2	3	4	5	6
I do not have enough energy for family and friends during leisure time.	1	2	3	4	5	6
My work is emotionally exhausting.	1	2	3	4	5	6
My work frustrates me.	1	2	3	4	5	6
I feel burnt out because of my work.	1	2	3	4	5	6