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The Impact of Perceived Dirty Work and Red Tape on Work Engagement Among Mental Healthcare Workers

HU Chengping

Doctor of Management

Supervisor:
PhD Aristides Ferreira, Associate Professor,
ISCTE University Institute of Lisbon

March, 2025

BUSINESS
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Marketing, Operations and General Management Department

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Abstract

As the demand for mental health services continues to rise, mental healthcare workers face multiple challenges, including occupational stigmatization and complex institutional constraints. Their work engagement and performance directly influence medical service quality and patient recovery outcomes. However, existing research has predominantly focused on general healthcare settings or corporate workplaces, with limited attention to how various job demands and resources interact to shape the work engagement of mental healthcare workers.

This study, based on the Job Demands-Resources (JD-R) model, first identifies job demands and resources through in-depth interviews with 17 mental healthcare workers, establishing a multi-factor mechanism model of work engagement within mental healthcare settings. A subsequent questionnaire survey was conducted among the healthcare workers at three points of time, with a total of 386 valid questionnaires collected, and structural equation modeling (SEM) was applied using SPSS to test the research hypotheses.

The results indicate that perceived dirty work and red tape have significant negative impacts on work engagement, while work engagement positively predicts work performance and mediates the negative effects of perceived dirty work and red tape on performance. Organizational learning climate significantly mitigates the negative impact of perceived dirty work on work engagement, occupational safety moderates the relationship between, perceived dirty work and work engagement, while job crafting significantly weakens the negative effect of red tape.

This study innovatively extends the application of the JD-R model to the mental healthcare setting and proposes a three-dimensional moderation model of “individual crafting - organizational support - environmental response.” Practically, the study recommends strategies including stigma elimination, process reform, task redesign, and psychological capital training to enhance healthcare workers’ work engagement and performance.

Keywords: Mental healthcare workers; Work engagement; Work performance; Perceived dirty work

JEL: M12, M10

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Resumo

À medida que a procura por serviços de saúde mental continua a aumentar, os profissionais desta área enfrentam múltiplos desafios, incluindo estigmatização ocupacional e complexas restrições institucionais. O seu envolvimento no trabalho e desempenho influenciam diretamente a qualidade dos serviços médicos e os resultados da recuperação dos pacientes. No entanto, a investigação existente tem-se focado predominantemente em contextos gerais de saúde ou em ambientes corporativos, dando pouca atenção à forma como diferentes exigências e recursos profissionais interagem para moldar o envolvimento dos profissionais de saúde mental no trabalho.

Este estudo, baseado no modelo de Exigências e RecursosLaborais (JD-R), identifica primeiramente as exigências e osrecursos do trabalho através de entrevistas aprofundadas com 17 profissionais de saúde mental, estabelecendo um modelo mecanicista multifatorial de envolvimento no trabalho neste contexto. Posteriormente, foi realizado um inquérito por questionário junto dos profissionais de saúde em três momentos distintos, resultando na recolha de 386 questionários válidos. Para testar as hipóteses de investigação, recorreu-se à modelação de equações estruturais (SEM) utilizando o AMOS do SPSS.

Os resultados indicam que a perceção do trabalho como "sujo" e a burocracia excessiva têm impactos negativos significativos no envolvimento no trabalho. No entanto, o envolvimento no trabalho prevê positivamente o desempenho profissional e medeia os efeitos negativos da perceção do trabalhocomo "sujo" e da burocracia sobre o desempenho. O clima organizacional de aprendizagem mitiga significativamente o impacto negativo da perceção do trabalho como "sujo" no envolvimento no trabalho. Além disso, a segurança ocupacional modera a relação entre a perceção do trabalho como "sujo" e o envolvimento no trabalho, enquanto a adaptação da função profissional reduz significativamente o efeitonegativo da burocracia excessiva.

Este estudo expande de forma inovadora a aplicação do modelo JD-R ao contexto da saúde mental e propõe um modelo tridimensional de moderação baseado em “adaptação individual - suporte organizacional - respostaambiental”. Do ponto de vista prático, recomenda estratégias como a eliminação do estigma, a reforma dos processos, a redefinição das tarefas e a formação em capital psicológico para melhorar o envolvimento e o desempenho dos profissionais de saúde mental.

Palavras-chave: Profissionais de saúde mental; Envolvimento no trabalho; Desempenho no trabalho; Percepção do trabalhocomo "sujo"
JEL: M12, M10

摘要

随着精神卫生服务需求的持续增长，精神卫生医疗机构医护人员面临职业污名化、复杂制度约束等多重挑战。医护人员的工作投入与绩效直接影响医疗服务质量与患者康复效果。然而，现有研究多聚焦普通医疗机构或企业员工，关注工作要求-资源多方面要素对精神卫生医护人员工作投入交互作用的研究还相对匮乏。

本研究基于工作要求-资源模型（JD-R），首先通过对 17 名精神卫生医护人员的深度访谈识别工作要求与资源，构建了精神卫生医护人员工作投入的多要素作用机制模型。随后通过 3 个时点对 386 套医护人员的有效问卷调查，运用 SPSS 进行结构方程模型分析，验证了研究假设。

研究结果表明，非体面工作感知和繁文缛节对工作投入有显著负向影响，而工作投入正向预测工作绩效，且中介了非体面工作感知和繁文缛节对绩效的消极作用。组织学习氛围显著弱化非体面工作感知对工作投入的负面影响，职业安全感调节非体面工作感知与工作投入之间的关系，工作重塑有效缓解繁文缛节的消极效应。

本研究创新性地拓展了 JD-R 模型在精神卫生领域的应用，提出了“个体重塑-组织支持-环境响应”三维调节模型，实践上，研究建议通过污名消解、流程改革、任务设计与心理资本培训等策略，提升医护人员的工作投入和绩效。

关键词：精神卫生医护人员；工作投入；工作绩效；非体面工作感知

JEL: M12, M10

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漫漫人生路上，我怀着对职业生涯的敬畏和对知识更新的渴求，在求知路上不断前行。如今，当我的博士论文即将完稿之际，感恩之情难以抑制。我深知我能完成博士论文，离不开导师的悉心指导，同学朋友的相伴鼓励，还有家人的默默支持。请允许我向所有支持和帮助过我的导师、老师、同学和朋友们，表示诚挚的谢意！

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Chapter 1: Introduction

1.1 Research background

With the rapid economic growth and increasing social competition, the work and life pressure of the general public is increasing, and the incidence of mental illnesses such as anxiety, depression, sleep disorder, and cognitive disorder has increased significantly (Dong et al., 2024). This trend is particularly prominent in the context of acceleration of urbanization and popularization of digital technology, in which fast-paced lifestyles and alienated social relationships have exacerbated the spread of mental health problems. According to the latest *World Mental Health Report* released by the World Health Organization, about one billion people worldwide suffer from different types of mental disorders. In other words, nearly one out of every eight people suffers from a mental disorder, and one person loses his or her life to suicide every 40 seconds on average. Since the outbreak of COVID-19, there have been over 70 million new cases of depression, 90 million new cases of anxiety, and hundreds of millions of people experiencing problems such as sleep disorders globally. The global prevalence of anxiety and depression increased by 25% during the first year of the COVID-19 (WHO, 2022). More than 350 million people suffer from depression globally, and about 264 million suffer from anxiety disorders as well (J. Lu et al., 2021). Even more alarming is the fact that by 2030 depression will become the disease with the largest global burden of disease. This series of data fully demonstrates that the health needs of people with mental illness urgently require more attention and response from the society. Improving the quality and accessibility of mental health services has become an important issue in global public health.

Meanwhile, as China has built a moderately prosperous society in all aspects, the needs of urban and rural residents are gradually shifting from the material level to the spiritual level, and mental health issues are receiving increasingly more attention. According to the *White Paper on Mental Health of Chinese Residents* released by the National Bureau of Statistics of the People's Republic of China in 2023, the lifetime prevalence of mental disorders among adults in China has reached 16.6%, of which the prevalence of depression is 3.4% and the prevalence of anxiety disorders is 4.8%. The annual economic burden caused by mental illness is among the highest in all clinical diseases and mental illness is one of the core factors leading to

disability. For a long time, due to the influence of social and cultural factors such as perceived stigma, many patients with psychiatric and psychological problems tend to delay seeking medical treatment, resulting in a consistently low rate of medical consultation and treatment coverage. In recent years, with greater importance attached to mental health and the promotion of relevant policies, understanding of mental illnesses by the general public has gradually improved, and the obstacles posed by traditional concepts are weakening. This shift has not only eased patients' concerns about seeking medical treatment, but also further unleashed the potential demands for mental health services. The social demands for mental health institutions and mental health counseling services are also growing rapidly (Z. Y. Liu, 2023). Especially in first-tier cities, the annual growth rate of psychological counseling services and the average annual growth rate of outpatient visits to psychiatric hospitals continue to climb.

At the national policy level, psycho-social health and mental health issues have been integrated into national development strategies. Since the implementation of the 12th Five-Year Plan (2011-2015), and especially after the promulgation of the *National Mental Health Law of the People's Republic of China* in 2012, mental health has been explicitly listed as an important component of the overall plan for national economic and social development. The report to the Nineteenth CPC National Congress further proposes to strengthen the construction of a social psychological service system, and cultivate a self-respecting, self-confident, rational, calm and positive social mentality, which highlights the top-level strategic consideration of building a harmonious social mentality and improving the psychological quality of the entire population. The report to the Twentieth CPC National Congress emphasizes attaching importance to mental and psychological health and regards it as an important component in safeguarding the physical and mental health of the people and promoting the overall progress of society. The Fourteenth Five-Year Plan explicitly calls for building a strong public health system and perfecting the system of mental health services. In the Fourteenth Five-Year Plan for National Health, it is proposed to promote the mechanism of comprehensive management for mental health, and improve the multi-channel management services for patients with severe mental disorders. The implementation of these policies and initiatives not only reflects the great importance attached by the Chinese government to the field of mental health, but also signals that China will gradually establish a more comprehensive and efficient mental health service system to provide more comprehensive and professional mental health support for the public.

According to data from the National Health Commission, mental health resources have realized rapid expansion over the past decade, with the number of professional institutions growing from 1,650 in 2010 to nearly 6,000 in 2020, and psychiatric beds expanding from

220,000 to nearly 800,000. At the same time, the number of practicing psychiatrists has doubled, from 20,000 to 50,000, showing leapfrog development in both service carriers and talent pools (C. H. Shi et al., 2019). This leapfrog development not only reflects China's sustained increase in financial investment and policy prioritization in mental health, but also embodies a fundamental shift in the understanding of mental health issues by the society as a whole. The growth trend in the past five years has been even more prominent. Driven by both the advancement of the hierarchical diagnosis and treatment system and the response to public health events, a multilevel system of the mental health service network covering both urban and rural areas has been initially established. Therefore, strengthening the capacity building of psychiatric specialty and enhancing the professional capabilities of the mental healthcare workers is not only an important measure to meet the people's growing demand for mental health, but also a key link in building a high-quality and efficient medical and health care service system, and a core element in promoting the strategy of Healthy China and the high-quality development of the healthcare industry.

As a crucial component of the mental health system, mental health centers play an irreplaceable role in providing high-quality mental health services. However, with the increasing national emphasis on mental health and the rapid growth in public demand for mental health services, mental health centers are still facing unprecedented pressure for reform and transformation. On the one hand, it is necessary to solve the dilemma of mismatch between the capacity structure of the professional talent team and the diversified service demands, especially in the emerging service areas such as psychological crisis intervention and social integration during the rehabilitation period, where there are obvious technical shortcomings; on the other hand, it is urgent to establish an intelligent and humanized service mechanism that is compatible with the modern medical model. Therefore, how to provide high-quality and efficient mental health services to meet diversified and multi-level social needs has become an important issue that needs to be resolved urgently. In this context, the work performance of the mental healthcare workers is directly related to the quality and efficiency of mental health services. Building a scientific talent training system and optimizing the career development incentive mechanism have become the key breakthroughs to crack the bottleneck of service supply.

Research has shown that work engagement is a key factor influencing the proactive work behavior and performance of healthcare workers (Bakker & Demerouti, 2007). Work engagement is reflected not only in employees' concentration on and enthusiasm for their work, but also in their sense of identification with and responsibility for the organization's goals, which is an important driving force for the improvement of organizational effectiveness.

However, due to the special work nature of mental health, the healthcare workers often face challenges such as occupational stigmatization and low occupational safety, which makes it particularly difficult to raise their work engagement. Mental health workers are in a high-pressure environment for a long period of time. They have to deal with the complexity of their patients' conditions as well as the social prejudice against mental illness, and this dual pressure is very likely to lead to job burnout and psychological exhaustion. According to a survey carried out by the Chinese Medical Doctor Association in 2022, the job burnout rate of healthcare workers in the psychiatric department is way higher than that of healthcare workers in other clinical departments. This status quo not only affects the career development of healthcare workers, but may also lead to a decline in service quality, forming a vicious circle. For example, some healthcare workers are emotionally detached due to long-term high pressure, making it difficult to establish effective therapeutic relationships with their patients, which in turn affects the effectiveness of treatment.

Therefore, more scholars and practitioners have recently started to focus on the work engagement of mental healthcare workers, expecting to explore the influencing factors of work engagement and its mechanism of action in an in-depth manner. It can provide theoretical basis and practical guidance for the improvement of work engagement, so as to further improve the quality of mental health services and promote the improvement and development of the mental health service system in China.

1.2 Research problem

Against the background of the comprehensive promotion of the Healthy China 2030 strategy by the government, the construction of the mental health service system is facing a dual challenge. On the one hand, policy documents such as the *National Pilot Program for the Construction of a National Psychosocial Service System* have put forward higher requirements for service capacity of mental healthcare. To be specific, China is currently working to promote an all-encompassing layout of the mental health service system, including the establishment of psychological service platforms at the grass-roots level, the improvement of the psychological support network in the education system, public institutions and enterprises, the promotion of the standardized operation of psychosocial service institutions, and the continuous strengthening of the professional service capacity of the medical system in the area of mental health. These measures aim to build a comprehensive and multi-level mental health service system to meet the growing mental health needs of the general public. On the other hand, mental

health medical institutions are confronted with a prominent problem of shortage of human resources. Among the 333 prefecture-level cities in China, 21 have not established any mental health institutions, accounting for 6.31% of the total cities, with gaps in mental health service resources. In addition, there are three prefecture-level cities that have relevant institutions but have not yet been equipped with specialized psychiatric beds, so that the function of the services has not been effectively brought into play (C. H. Shi et al., 2019). Data show that the density of psychiatrists in China is only 4.08 per 100,000 population, which is in sharp contradiction with the rapidly growing demand for mental health services. In this context, the problem of insufficient work engagement of the healthcare workers is increasingly highlighted, which is specifically manifested in the weak internal drive, and the uneven (H. Q. Zhang & Liu, 2016) and overall low level of work engagement (P. Li et al., 2019). Due to this structural imbalance of engagement-demand, in-depth exploration of the key factors affecting the work engagement of healthcare workers and the mechanism of action has become an important issue that needs to be resolved in current research. In addition, the question of whether work engagement can be translated into improved performance of healthcare workers has not been fully explored in existing research, especially in light of the special characteristics of mental healthcare workers, for which the academic community has not yet provided systematic theoretical explanations and practical guidance.

Work engagement is a multidimensional construct that includes the dimensions of vigor, dedication, and absorption (Jenaro et al., 2011). Work engagement has been the focus of research in the field of management, and this research is derived from positive psychology. In general, the behavior or outcome of organizational innovation and job performance are affected by employees' work engagement. As healthcare workers provide healthcare services directly to patients, their work engagement has a significant impact on their work behavior and performance. However, mental healthcare workers face a number of unique challenges. First, the stigmatization of mental illnesses, which is widespread at home and abroad, has become a serious social problem. Studies have shown that public prejudice and discrimination against common mental disorders, such as anxiety disorder and depression, not only increase patients' perceived stigma, but also form a chain reaction of professional stigmatization against psychiatrists (Q. Yu et al., 2014). This dual stigmatization phenomenon leads to multidimensional negative impacts. At the patient level, social prejudice significantly exacerbates patients' psychological stress, directly hindering the process of standardized treatment and social function recovery (Y. Y. Zhu et al., 2023). At the healthcare worker level, mental health practitioners commonly report experiences of occupational discrimination

(Thornicroft et al., 2022), and their level of occupational achievement is consistently lower than that of physicians in the general hospitals (Y. L. Li, 2013). This systemic discrimination triggers a vicious cycle, namely, perceived dirty work among mental healthcare workers has a significant negative correlation with their work engagement and service effectiveness (Y. Y. Zhu et al., 2023), and reinforces collective perception of low social evaluation of the occupation (Thornicroft et al., 2022).

Occupational discrimination also exacerbates healthcare workers' sense of social isolation and restricts their career development opportunities, such as facing unfair treatment in academic exchanges and professional title promotion (Y. L. Li, 2013). This structural exclusion mechanism weakens the attractiveness of the profession and ultimately affects the sustainable development of the mental health talents. Second, in practical work, many healthcare workers are also required to undertake a large number of administrative affairs not related to mental health, and the average time spent by the healthcare workers on the administrative affairs every week accounts for a significant proportion of their total working time. The energy of the healthcare workers is limited, and cumbersome administrative matters are bound to distract their energy, which will affect the quality of medical care and weaken healthcare workers' enthusiasm.

In addition, the specificity of the behaviors of people with mental illnesses exposes healthcare workers to a high level of occupational safety risks (Wong & Bressington, 2022). The incidence of psychiatrists being violently attacked by patients is 72%, significantly higher than the figure (39%) for non-psychiatrists (H. T. Song et al., 2022). The percentage of psychiatrists who have suffered one or more violent attacks in the workplace is 87.66%, with the incidence of verbal violence being particularly high, and the incidence of threatening intimidation and physical assault is also significantly higher than that of non-psychiatrists (Y. H. Chen et al., 2021). Crisis events such as violence, self-injury, and suicide, which may occur at any time in daily work, bring tremendous mental pressure to psychiatrists. At the same time, the contradictions in the dual roles of some physicians as healers and administrators, as well as the possible conflicts between work and family, cause psychiatrists to continuously consume emotional resources and accumulate burnout, which in turn jeopardizes the quality of work and job satisfaction. These factors work together to exacerbate their mental exhaustion, weaken their work vitality and limit their dedication (X. Qi et al., 2021). These challenges faced by the mental healthcare workers not only reduce the time they devote to their own work, but also lower their absorption on their core work (T. T. Liang et al., 2019). Meanwhile, organizational environmental factors in hospitals, such as a positive learning climate and an atmosphere that

encourages job crafting, have also proved to have a significant impact on healthcare workers' work engagement. However, the psychiatric hospitals still have a long way to go to develop themselves in these areas. The perceived work pressure and organizational climate of psychiatric healthcare workers is significantly undesirable than that of healthcare workers in other departments.

In recent years, some psychiatric hospitals have attempted to improve the incentive level of healthcare workers in recent years by means of policy implementation and institutional transformation (R. Z. Chen et al., 2020). For example, the National Health Commission has implemented policies such as the Mental Health Talent Capacity Enhancement Project and the Pilot Construction of Mental Health Service System, which have achieved initial results in some regions. These initiatives have provided new ideas for improving the working environment and incentive mechanisms for mental healthcare workers. However, it often takes a long time for macro policies and organizational changes to show their effects, and it is difficult to significantly increase the level of healthcare workers' work engagement in the short term. In addition, most of the existing research on work engagement focuses on private sector employees, and there is a lack of research on mental healthcare workers. Given the specificity of mental health, it is of great theoretical significance to apply the existing work engagement theory in this field. Existing theoretical frameworks are mostly constructed based on general workplace environments, making it difficult to comprehensively explain the work engagement mechanisms of mental healthcare workers, and it is urgent to make theoretical innovations based on the occupational characteristics. Therefore, it is necessary to explore micro-level actionable influencing factors to alleviate the negative effects of objective hindering factors and enhance the positive effects of facilitating factors.

In summary, how to enhance the work engagement of mental healthcare workers through institutional innovation and work design optimization, stimulate their work enthusiasm, and improve work performance and service quality is a key issue that needs to be solved urgently. At the same time, conducting a special study on the work engagement of mental healthcare workers not only helps to fill the existing research gaps, but also provides theoretical support for practice. Specifically, the following questions need to be further explored. What factors affect the work engagement of mental healthcare workers? In addition to universal factors, are there special influencing factors? Through what pathways and mechanisms do these factors work? Are there interaction effects between them? Does work engagement affect work outcomes, and how? The answers to these questions will provide an important basis for theoretical expansion and practical innovation in related fields.

In addition, the selection of Shanghai as the research background has important practical significance and theoretical value. As a pioneer in the construction of the national mental health service system, Shanghai has accumulated rich experience in mental health services, and a three-tier mental health service network system of "city-district-sub-district (township)" recognized by the World Health Organization as the "Shanghai model" has been established. Its indicators such as mental health service resources per 10,000 population, the coverage rate of community-based psychiatric rehabilitation services, and the standardized management rate of severe mental disorders are at a leading level in China. At the same time, Shanghai has a large number of specialized mental health hospitals with rapid development of the discipline, and its disciplinary development, scientific research capacity and service model are of national exemplary significance, which provides extensive practical cases and data support for the research. Therefore, taking the healthcare workers of specialized mental health institutions in Shanghai as the research targets can not only serve as a reference for the optimization of the mental health service system in China, but also provide empirical evidence for the deepening and expansion of related theories. It can be further extended to other regions in China to provide scientific basis and practical guidance for the establishment of a high-quality mental health service system.

1.3 Research questions

The core issue of this research is which factors play a key role in the work engagement of healthcare workers in mental health institutions under special social circumstances and task features, and how the level of work engagement affects their performance. A review of the relevant literature shows that most current research on work engagement is focused on the private sector, such as companies, with little research paying attention to healthcare workers in medical institutions, let alone mental health institutions. Compared with companies and general medical institutions, the work of mental health institutions is more particular. The stress sources and working environment of the healthcare workers in mental health institutions are significantly different from those of companies and other medical institutions, and the influence paths on work engagement are also different. Therefore, it is of great theoretical and practical significance to explore in depth the influencing factors of work engagement of healthcare workers in mental health institutions and its mechanism of action, as well as the impact of work engagement on work performance.

Mental healthcare workers are exposed to a work environment with heavy psychological loads for a long term, and multiple negative stressors from society, organizations and families have caused them to endure great perceived stress, often accompanied by negative emotions such as irritability and tension. If these emotions are not released in time, it will harm the work engagement of healthcare workers, and will in turn affect work behaviors including the choice of treatment, doctor-patient communication, proactive work behavior, performance and output quality. For mental health institutions, it is difficult to optimize the effectiveness of human resources and maximize performance if the key factors influencing healthcare workers' work engagement are not clarified.

On this basis, this study takes the Job Demands-Resources Model (JD-R) as the theoretical basis to systematically sort out the factors affecting the work engagement of healthcare workers in mental health institutions, profoundly explore how these factors act on work engagement, and further discuss the impact of work engagement on work performance. The advantage of the JD-R model is its flexibility and universality, which can adjust the specific dimensions of job demands and job resources according to different occupational characteristics, and it can explain the formation mechanism of work engagement in a more precise manner. The JD-R model suggests that job characteristics of any occupation can be summarized into two categories: job demands and job resources (Demerouti et al., 2001). Job demands refer to the physical and psychological characteristics of the job that an employee is subjected to, including workload, time pressure, emotional demands, and role conflict. Excessive job demands may cause accelerated energy consumption, reduced work engagement, and eventually negative work outcomes, such as job burnout, reduced performance and physical and mental health issues. Job resources, on the other hand, refer to factors that help employees cope with the job demands, facilitate goal achievement, and motivate personal growth, including organizational support, social support, autonomy, feedback, and career development opportunities. Adequate job resources can stimulate employees' internal motivation and increase their work engagement, resulting in positive work outcomes, such as promoted job satisfaction, increased proactive behaviors, and improved performance.

Work engagement refers to the physical, cognitive, and emotional connection individuals feel toward the work they do, and its core feature is intrinsic motivation (Edelbroek et al., 2019). Job demands are important factors influencing intrinsic motivation (Duffy et al., 2019), and the reasonableness of job demands is directly related to the level of employee work engagement and their subsequent performance. Based on the preliminary interviews, it is found that the typical job demands faced by mental healthcare workers mainly include perceived dirty work

and red tape. We argue that these job demands negatively affect healthcare workers' work engagement and further act on their work performance. Therefore, this study first focuses on the impact of perceived dirty work and red tape on healthcare workers' work engagement.

In addition, organizational learning climate, job crafting, and occupational safety are typical job resources in mental health institutions. Organizational learning climate is employees' perception of the organizational environment, and it directly affects employees' knowledge acquisition and work engagement (Bell et al., 2010). A good learning climate can motivate healthcare workers to continuously study medical technology, promote knowledge sharing and experience exchange, and enhance professional competence and service efficiency. Job crafting, as a positive coping strategy, help alleviate the negative impact of job demands. Job crafting refers to the process in which individuals redefine the meaning of work by autonomously adjusting job content, responsibility boundaries, and role perceptions to enhance job identity and engagement. Mental healthcare workers often face unique challenges such as occupational stigmatization and risk of patient violence, and job crafting can help them redefine their occupational values and enhance their work engagement. Moreover, occupational safety is also an important type of job resources, involving employees' positive perceptions of workplace safety, occupational stability, and long-term career development. When healthcare workers perceive a relatively high sense of occupational safety, they are more willing to devote more energy to their work and show a higher level of work enthusiasm and responsibility (Sverke et al., 2002). Occupational safety is also effective in relieving job stress, reducing the risk of burnout, and promoting job performance and organizational commitment.

This study expands the scope of the JD-R model to explore the joint effects of the aforementioned interactions between job resources and job demands on healthcare workers' work engagement and work performance. In other words, this study explores the moderating role of organizational learning climate, job crafting and occupational safety in the relationship between job demands and work engagement, with a view to finding effective paths to mitigate the negative impact of job demands.

In summary, we take work engagement as the core variable and focuses on the interaction mechanism of job demands and job resources on work engagement. In addition, in order to examine the effect of work engagement more comprehensively, we will further explore how job demands and job resources affect healthcare workers' work performance through the mediating role of work engagement. On this basis, we will propose targeted management recommendations to enhance the practical value of the study. This study is carried out based on the following three core questions.

(1) What is the current situation of work engagement among mental healthcare workers?

(2) How do job demands such as perceived dirty work and red tape affect work engagement among mental healthcare workers?

(3) What are the roles played by different job resources respectively in the impact of job demands on work engagement?

Based on the above research questions, this research takes the specific group of medical staff in mental health institutions as the research target. The research purposes include the following four aspects: (1) summarize the job characteristics of medical staff in mental health institutions, and identify the typical job demands and job resources faced by them; (2) explore the interactive effects of job demands and job resources on work engagement and analyze the influencing mechanism; (3) explore the effects of work engagement on healthcare workers' work performance; and (4) propose management strategies to optimize healthcare workers' work engagement and work performance based on the research findings.

1.4 Research purpose

Against the backdrop of the rapidly growing demand for mental health services in China, mental healthcare workers face multiple challenges such as occupational stigmatization and heavy administrative burdens, which seriously affect their work motivation and service quality. Existing studies have mostly focused on corporate employees or general medical institutions, paying insufficient attention to this special group of high-pressure, emotionally labor-intensive workers in the field of mental health, and especially lacking a systematic exploration of their work engagement mechanisms. On this basis, this study takes the Job Demands-Resources model (JD-R) as the theoretical basis, and uses in-depth interviews and three-stage questionnaires to identify the key job demands (perceived dirty work and red tape) and job resources (occupational safety, organizational learning climate, and job crafting) faced by mental healthcare workers, aiming to construct a model of their influence on work engagement and further test the impact of work engagement on work performance. By revealing the path of influence of the interaction between job demands and resources on the psychological state and behavioral performance of healthcare workers, the study aims to enrich the application of work engagement theory in special occupational groups, promote the optimal practice of human resource management in the field of mental health, and therefore enhance the professionalism and sustainability of the mental health service system.

1.5 Identification of the research subjects

The research subjects of this study are healthcare workers in mental healthcare institutions, specifically including doctors, nurses, public health workers, management personnel and medical technicians. The selection of the research subjects is based on the following considerations. First, the working environment of mental health institutions is particular, as healthcare workers are often subject to great psychological pressure and social prejudice when dealing with patients with mental illnesses, which makes their work engagement and performance significantly different from that of healthcare workers in other medical institutions.

Second, with the rising social concern about mental health issues and the increasing demand for mental healthcare institutions, the occupational identity and work engagement level of healthcare workers directly affect the quality of healthcare services and the recovery outcomes of patients. Therefore, it is of great practical significance to study the work engagement mechanism of this specific group.

With specialized mental health hospitals in Shanghai as the research background, we select the healthcare workers of the Mental Health Center in Pudong New Area, Shanghai as the research subjects. As a metropolis with a relatively complete mental health service system in China, Shanghai enjoys a large number of specialized mental health hospitals and a fast rate of professional development. By conducting in-depth research on the healthcare workers of these hospitals, this study aims to reveal the mechanism of work engagement of the healthcare workers in mental health institutions and its influencing factors. The three selected hospitals are located in the downtown area, suburban area and urban-rural fringe area, and this differentiated hospital distribution helps to capture the similarities and differences in the work engagement of healthcare workers under different organizational structures and management mechanisms, providing a comparative basis for the generalizability and adaptability of the study. The mental healthcare management system is relatively sound in Shanghai, and district-level mental health centers have achieved effective results in implementing policies such as the National Mental Health Law, which provides a basis for evaluation and feedback after the policies have been implemented. At the same time, hospital management is highly supportive of this type of study, making it easy to conduct in-depth interviews, questionnaire distribution, and time-varying surveys to ensure data quality and study completeness. Selecting multiple sample hospitals in the same city helps to focus on the study of work engagement under the premise of the basic consistency of the policy environment and socio-cultural background, thus enhancing the validity of the study while controlling the macro interference factors.

1.6 Research methods

This study adopts a mixed research methodology integrating qualitative and quantitative research to ensure the comprehensiveness and reliability of the findings. Specific research methods include in-depth interview method, questionnaire survey method and data analysis method.

(1) In-depth interview method. In this study, qualitative data were first collected through the in-depth interview method, and the interviewees include medical and management staff of the Mental Health Center in Pudong New Area, Shanghai. The content of the interviews mainly centered on job specificity, professional identity, occupational pressure, internal drive, and work engagement of the psychiatrists. Through the interviews, the researchers were able to gain an in-depth understanding of the healthcare workers in terms of their working environment, psychological state and the influencing factors of work engagement, providing theoretical support for the subsequent quantitative research.

(2) Questionnaire survey method. On the basis of qualitative research, we designed a questionnaire for healthcare workers in mental healthcare institutions, covering a number of dimensions such as work engagement, work performance, disgraceful perception, red tape, occupational health and safety, organizational learning climate and job crafting. The questionnaire was measured using a Likert 7-point scale, and data collection was conducted through offline printed questionnaires to ensure the authenticity and reliability of the data.

(3) Data analysis method. SPSS 26.0 was used to analyze the data in this study. First, the basic characteristics of the samples were analyzed through descriptive statistics; second, reliability and validity analyses were conducted to ensure the reliability and validity of the questionnaire; finally, correlation and regression analyses were conducted to verify the research hypotheses and explore the relationship between variables and the influencing mechanism.

1.7 Research contribution

1.7.1 Theoretical contribution

Based on the Job Demands-Resources model (JD-R model), this study focuses on the healthcare workers in mental health institutions to explore in-depth the influencing mechanism of their work engagement, which helps enrich the application of the model in specific occupational groups. Unlike previous studies that mainly focus on general corporate employees, this study

introduces variables such as disgraceful perception and red tape, and reveals how these factors further act on work performance by affecting work engagement. It provides new empirical support for the applicability of the JD-R model in high-pressure and high-affective labor environments, and promotes the further development of the theory. Research on work engagement has long been dominated by corporate organizations, while the healthcare industry, especially healthcare workers in mental health institutions, has seen relatively limited relevant research due to their occupational particularity. This study fills this research gap by systematically exploring the work engagement mechanism of the healthcare workers and emphasizing their unique working environment, occupational challenges, and psychological feelings, which provides a new research framework and experience for future expansion of the work engagement theory in different occupational groups. This study further expands the application boundary of the job crafting theory by empirically verifying the moderating role of job crafting in the relationship between red tape and work engagement, suggesting that individuals can mitigate the negative impacts by adjusting their tasks, cognition, or interpersonal interactions when faced with burdensome rules and high compliance requirements. This finding not only deepens the understanding of how job crafting facilitates individuals to cope with the challenges of organizational environment, but also provides new theoretical support for optimizing management practices and enhancing employee autonomy.

1.7.2 Practical contribution

Against the backdrop of changes in the healthcare industry and continued growth in demand for health services, human resource management in mental health institutions is facing increasingly complex challenges. The work engagement and performance of healthcare workers not only affect the quality of healthcare services, but also directly relate to the stability and development of the organization (Knight et al., 2017).

In this study, we propose management recommendations based on empirical analyses, with a view to providing practical guidance for healthcare organizations and policy makers. The medical institutions should optimize administrative processes, reduce unnecessary institutional burdens, and improve the flexibility and rationality of the management systems, so as to reduce the negative impact of red tape on the work of healthcare workers (Shanafelt et al., 2015). Measures such as streamlining the reporting process, reducing the frequency of meetings, and optimizing the electronic medical record system can be taken to reduce the administrative burden of the healthcare workers, so that they can devote more time and energy to their clinical work, which can enhance their work efficiency and job satisfaction. At the same time, an

effective feedback mechanism should be established to encourage the healthcare workers to participate in the improvement of management processes and enhance their sense of belonging and participation.

To address the issue of professional identity in the field of mental health, career development support should be strengthened to provide clear growth paths and training resources to enhance professional identity of the healthcare workers. Through the establishment of a specialized career development planning department, personalized career development plans can be formulated for the healthcare workers, including promotion pathways, opportunities for continuing education and interdisciplinary exchange platforms. In addition, the social influence and professional honor of mental healthcare workers can be enhanced through approaches such as commending outstanding mental healthcare workers and holding academic seminars, so as to increase social recognition of them. The management personnel can encourage healthcare workers to make moderate autonomous adjustments in their work to enhance job flexibility and matching, thereby improving overall job satisfaction and performance levels. The healthcare workers should be allowed to rationally arrange their working time according to their own circumstances, and choose work tasks that suit their specialties (Marzocchi et al., 2024). Team building should also be strengthened to promote communication and collaboration among healthcare workers and form a positive working atmosphere.

The organizational level should strengthen the construction of a learning climate, improve the mechanism of knowledge sharing and experience exchange, and promote teamwork and professional competence. Through the establishment of an internal knowledge base and the organization of regular academic lectures and case sharing sessions, the organization should encourage the healthcare workers to share their experiences and insights and promote the accumulation and transmission of knowledge (Edmondson & Harvey, 2018). The organization should also focus on cultivating innovative thinking and problem-solving skills among the healthcare workers to provide strong support for them to cope with complex and volatile clinical situations. Occupational safety is an important factor affecting the stability of healthcare workers, and healthcare organizations need to establish a sound safety management system, and provide psychological support and emergency response measures in order to enhance the sense of security of healthcare workers and reduce the uncertainty at work. Healthcare institutions should pay attention to the physical and mental health of the healthcare workers, and carry out regular physical examinations and psychological counseling activities, so as to ensure that they can devote themselves to work in the best possible condition.

The conclusions of this study provide a practical basis for mental health institutions in the optimization of organizational management, career development support and staff experience enhancement, and also lay a theoretical foundation for future in-depth research in related fields. Future in-depth research can further explore how to combine the characteristics and needs in the field of mental health to develop more precise and effective human resource management strategies and management measures, so as to promote the sustainable and healthy development of the entire industry.

1.8 Research roadmap

The research roadmap is shown as per Figure 1.1.

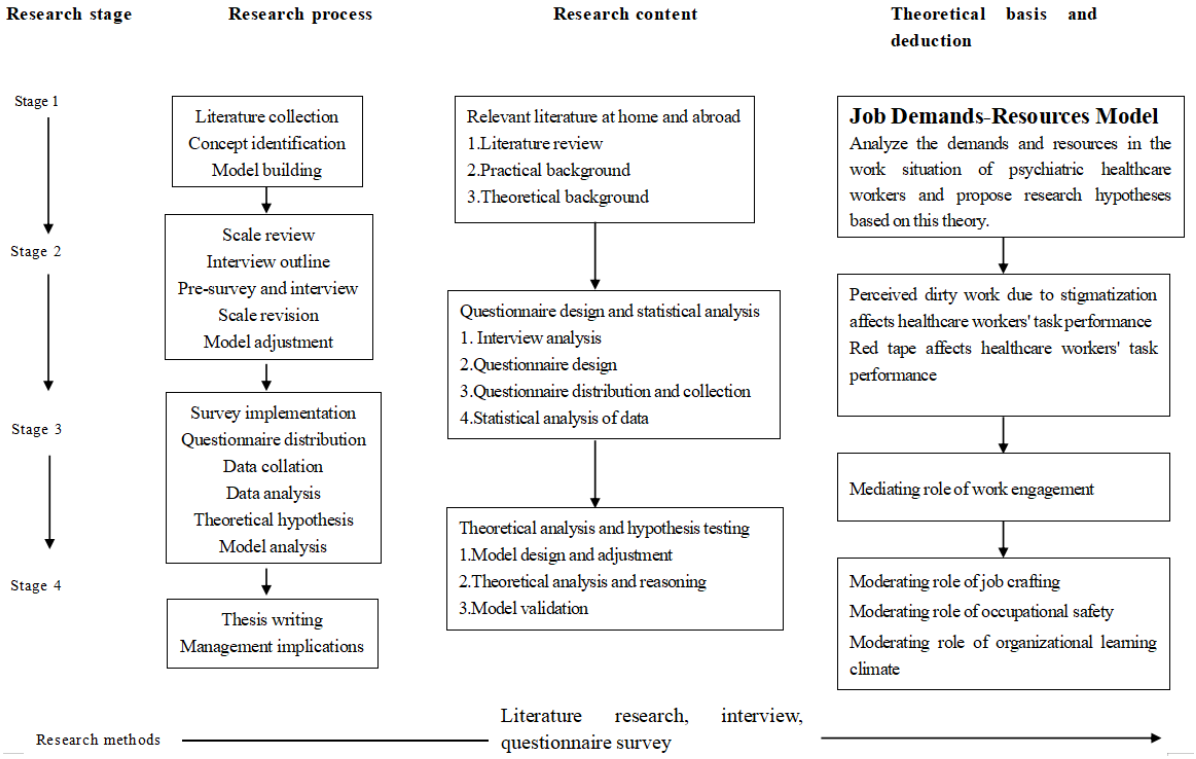

Figure 1.1 Research roadmap

1.9 Thesis structure

Chapter 1: Introduction. This chapter first analyzes the multiple challenges brought by the continuously growing demands for mental health services to healthcare workers in mental healthcare institutions, and points out that the work engagement and performance of healthcare workers exert a direct impact on the quality of healthcare services and the recovery outcomes of patients. It is then pointed out that most of the current research on work engagement focuses

on corporate employees or general healthcare workers, while there is a relative lack of research on work engagement of the mental healthcare workers. This chapter clearly defines the research subjects, outlines the research methods and research contribution, and explains the thesis structure and research roadmap. Specifically, this chapter includes research background, research problem, research questions, identification of the research subjects, research methods, research contribution (theoretical contribution and practical contribution), and research roadmap.

Chapter 2: Literature Review. Through review of relevant literature, this chapter systematically sorts out the core concepts of work engagement, work performance, perceived dirty work, red tape, occupational safety, organizational learning climate and job crafting and their measurement methods. On the basis of the existing research results, the core variables and their dimensions of this study are clarified, and the relationship between the variables is analyzed in depth, which lays a solid theoretical foundation for the construction of the subsequent research model. Specifically, this chapter includes relevant research on work engagement, outcome variable of work engagement, influencing variables of work engagement and relevant moderators.

Chapter 3: Research Model and Research Hypotheses. On the basis of literature review, this chapter constructs a research model based on the Job Demands-Resources Model (JD-R model). In this model, perceived dirty work and red tape are the independent variables, work engagement is the mediator, occupational safety, organizational learning climate and job crafting are the moderators, and work performance is the outcome variable, and all these variables constitute a complete research framework. This chapter elaborates the relationship between the variables and puts forward the corresponding research hypotheses. Specifically, this chapter includes construction of the research model, elaboration of the theoretical foundation and proposition of the research hypotheses.

Chapter 4: Research Methods. This chapter explains the qualitative and quantitative research methods used in the study. First, the in-depth interview method is used to obtain qualitative data to gain an in-depth understanding of the specificity of mental healthcare workers' work and its impact on their work engagement. Second, the questionnaire survey method is used to collect quantitative data covering multiple dimensions such as work engagement, work performance, perceived dirty work, red tape, occupational safety, organizational learning climate, and job crafting. Meanwhile, this chapter describes the questionnaire design, sample selection, questionnaire distribution and collection, and data

analysis methods. Specifically, this chapter includes in-depth interview method, questionnaire survey method, questionnaire item design, sample selection and data collection steps.

Chapter 5: Results. This chapter is divided into two parts. The first part describes the results of the qualitative study and summarizes the findings of the interviews in terms of job particularity, occupational identity, and occupational stress among mental healthcare workers. In the second part, a descriptive statistical analysis of the questionnaire data is conducted, the scale reliability and validity are tested, and quantitative analyses such as correlation and regression analyses as well as model hypothesis testing are carried out to verify the hypotheses proposed. Specifically, this chapter includes two parts: qualitative results and quantitative results.

Chapter 6: Discussion. Beginning by summarizing and analyzing the findings obtained in Chapter 5, this chapter specifically explores the negative impact of perceived dirty work and red tape on work engagement and the positive impact of work engagement on job performance. Meanwhile, the moderating effects of occupational safety, organizational learning climate, and job crafting in the variables are explored in depth. In addition, this chapter elucidates the theoretical contributions and practical implications of the study, points out the research limitations, and suggests possible directions for future research. Specifically, this chapter includes discussion of research results, research contribution (theoretical contribution and practical implication), research limitations and suggestions for future research, and conclusion.

Chapter 2: Literature Review

2.1 Work engagement

2.1.1 Concept of work engagement

Work engagement, an important psychological concept, was first introduced by Kahn (1990) at Boston University in the United States. He defined work engagement as the behavior of an individual who incorporates his or her positive personality traits and energies at work and achieves good performance, with three specific dimensions: physical, emotional and cognitive. In 1992, Kahn furthered his research on work engagement, and found that job factors, personal factors, and social factors are the three variables that predict psychological conditions, and he believes that the result of work engagement is an increase in productivity as well as an improvement in the quality of work. Despite Kahn's conceptual definition of work engagement, it has not gained widespread popularity in psychology due to its inability of standardization and cross-cultural measurement.

With the development of related research, the concept of work engagement has become clearer. Maslach and Leiter (2008) conducted a comparative study between work engagement and job burnout. They believe that work engagement and job burnout are the two extremes of employees' psychological state at work, and work engagement means having sustained energy and high self-efficacy, being able to be fully integrated into the work, and pursuing high efficiency at work. However, Obschonka et al. (2023) contend that work engagement is not just the opposite of burnout, but a more complex concept. They see work engagement as a sense of well-being that manifests itself in three dimensions: vigor, dedication, and absorption. To be specific, Vigor refers to the ability of an individual to maintain a high level of energy in the work process, and continue to be engaged and persistent in completing tasks even when difficulties are encountered. Dedication is not a spirit of sacrifice in the usual sense of the word, but refers to the ability of an employee to be deeply involved in his or her work, and feel the challenge of the task, the sense of value, and the resulting sense of accomplishment and honor. As for absorption, it is manifested in a state of pleasure and immersion in work, and the feeling that time passes by so quickly that it is difficult to pull oneself away from the work.

In addition, Riyanto et al. (2021) elaborated on the importance of work engagement from the perspective of employee perception. When employees are able to more closely integrate themselves with their work roles, they become more deeply engaged in their work on a personal cognitive level, and thus demonstrate higher standards of professional conduct. Rich et al. (2010) believe that work engagement is the investment of an individual's complete self into a role, which is manifested in the employee's total integration into the work of an organization. Uslukaya (2025) has further extended the theoretical framework of work engagement, arguing that work engagement can not only enhance employees' occupational well-being, but also effectively reduce their sense of ostracism at work, and promote their growth at work by enhancing their multitasking abilities.

2.1.2 Measurement of work engagement

The Utrecht Work Engagement Scale (UWES Scale) was developed by Schaufeli et al. (2002) and consists of three dimensions, vigor, dedication, and absorption, with a total of 17 items. The vigor dimension consists of six items, such as "I feel very strong and vigorous at work", which measures the employee's resilience, energy level, and persistence at work. The dedication dimension consists of five items, such as "I take great pride in my work", which measures employees' passion of, dedication to, and pride in their work. The absorption dimension has six items, such as "I am able to work without distractions and ignore the interference of the surrounding environment", which is a measure of the employee's immersion in his/her work. The scale is based on a seven-point scoring method, with choices from "never" to "always" on a scale of 0 to 6. The higher the score, the greater the degree of work engagement. The scale was subsequently reduced to nine question items by Schaufeli et al. (2006). The UWES Scale is currently the most commonly used scale in academic research on work engagement.

Gallup Workplace Survey. By interviewing millions of employees, Harter et al. (2003) developed the Workplace Survey Scale to measure employee engagement. The scale is divided into two categories including a total of 12 items. The first category is mainly used to measure employees' attitudes during the work process, such as the degree of job satisfaction and the degree of willingness to serve customers. The second category is mainly used to measure factors affecting employees' attitudes towards work, such as the availability of equipment and materials used for work. Although the Gallup Workplace Survey Scale is applied in practice, some scholars have questioned that the scale does not measure work engagement.

Rich et al. (2010) argue that although the UWES Scale is the most widely used work engagement scale in academia, the scale has some limitations in practical research, so they

modify the scale. The modified scale includes a total of eighteen question items in three dimensions: physical, cognitive, and emotional.

2.1.3 Antecedents of work engagement

Demographic variables, which mainly include gender, age, education, length of service, and professional title. For example, Schaufeli et al. (2010) found that older employees tend to be more engaged at work. The reason may be that as individuals grow old, they are more likely to achieve success in their work. In addition, it is also found that males have a higher level of work engagement than females.

Personality characteristics. Numerous studies have found that the personality characteristics of individual employees affect their internal psychological motivation, as opposed to objective factors at the organizational level, which can exert a profound impact on work engagement as an explicit behavior. Numerous studies have shown that a number of individual traits are strongly associated with high levels of work engagement. Research has shown that individuals vary in their level of engagement in their work, and that this variation is influenced by a variety of personality factors related to five main areas: personality and temperament traits, self-identity, work efficacy, psychological state, and coping styles. Generally speaking, the psychological state of employees significantly affects their work engagement, and a good psychological state is the foundation of in-depth engagement in work, which is proved by Kahn who believes that the formation of work engagement is influenced by three main types of psychological factors, namely, the individual's sense of psychological significance for the work, psychological security, and the ability to mobilize psychological resources (namely, psychological accessibility). In addition, certain personality characteristics of employees are also positively correlated with work engagement. For example, K. L. Li et al. (2024) found that employees' optimism significantly predicts their attitudes toward their jobs, and the more optimistic they are, the clearer their attitudes toward their jobs are, and thus the higher their work engagement will be. Z. Y. Wang et al. (2021) have also studied work engagement from the perspective of employees' identity. Identity is actually a reflection of employees' high organizational self-esteem, the more employees identify with their organizations and the higher their sense of belonging, the easier they believe that they can achieve their role value and satisfy their own needs through their own hard work. Gordan and Hood (2021) suggest that individuals with high organizational self-esteem are more optimistic and positive about their own perceived value, and are able to work harder, and therefore, their degree of work engagement is also higher. In addition, individual characteristics such as greater

self-efficacy, proactive personality traits, mental toughness, and higher emotional intelligence have all been shown to have a positive effect on enhancing work engagement.

Organizational factors. Among the many variables that influence work engagement, factors at the organizational level play an important role. The structure of the organization itself, its culture, and the behavior of its members often have a direct or indirect impact on employee engagement through a variety of pathways. According to Zahari and Kaliannan (2023), a number of organizational variables in the work context can be key drivers in shaping individual levels of engagement. These factors include clear task goals, subordinates' autonomy, role fit, subordinates' resources, and superior support, all of which positively predict employees' work engagement. Many previous studies have verified the positive correlation between work resources and work engagement. For example, Albrecht (2021) found that there is a significant positive correlation between employees' work resources and their work engagement, and the more work resources an employee has, the higher his or her work engagement level will be. The work resources mentioned here mainly include social relationships, development possibilities, degree of work autonomy, and leadership. With the development of related research, scholars have observed more specific and diverse organizational-level factors that affect work engagement. For example, Mazztti et al. (2021) found that the leader's level of work engagement is an important factor influencing subordinates' level of work engagement. Influenced by the positive state of the leader, subordinates will have a higher level of work engagement. Otgman and Nasuidin (2019), on the other hand, pointed out that work autonomy as well as work feedback positively affects employees' work engagement. In addition, factors such as organizational culture, perceived organizational fairness, organizational communication, and employment relationship all affect employees' work engagement to varying degrees.

2.1.4 Outcomes of work engagement

Influence on individual employees. The influence of work engagement on individual employees is mainly manifested in several aspects such as work attitude, work behavior, subjective well-being, and physical health. Previous studies have examined a wide range of work attitude variables including job satisfaction, sense of efficacy, and organizational commitment. Waal and Pienaar (2013) argue that in a state of long-term work engagement, employees will have higher expectations for their future work, they will become more optimistic about their career prospects, and their work self-efficacy will become higher. Theoretically, a high degree of work engagement can positively predict employee performance, and as early as the concept of work engagement was introduced, Kim et al. (2013) had argued that there is a significant positive

correlation between employee work engagement and job performance. In addition, work engagement is a significant contributor to employees' healthy and happy life, which enhances their subjective well-being and helps them to live a healthy and happy life, so that they can maintain a good physical condition. Orgambidez and Benitz (2021) found that work engagement and affective commitment show a significant positive correlation with each other, and employees with a high level of work engagement are less likely to fall ill and have higher levels of mental and physical health.

Influence on the organization. A high level of work engagement exerts positive influence on not only individual employees, but also the organization. Among the studies on the outcome variables of work engagement, the study on the relationship between work engagement and job performance is particularly noteworthy. There is no doubt that a high degree of work engagement leads to improved organizational performance. Jufrizen et al. (2023) found that employee work engagement has a significantly positive correlation with various organizational outcome variables such as job performance, productivity, and profitability, and has a significantly negative correlation with the employee turnover.

2.2 Work performance

The definition and classification of work performance has always been a core issue in the fields of organizational behavior and human resource management. Although work performance has been widely studied by scholars, so far, no consensus has been reached on the connotation and definition of work performance. Based on the specific content of work performance, there are three views on the definition of work performance: the outcome view, the behavior view, and the comprehensive view. In the early studies, researchers tend to simplify work performance to quantifiable output results, emphasizing an outcome-oriented evaluation system which focuses on goal attainment, namely, the outcome view of work performance. According to the outcome view, employees' work performance is the result of work realized by employees within a certain work cycle, which examines the completion of a job or a task, and is specifically manifested in outputs and outcomes (Bernardin & Beatty, 1984). This outcome-oriented definition has the advantage of assessing productivity in the industrialized era, allowing for quick measurement of individual contributions through hard metrics such as sales, production, and error rates.

With the development of economy and deepening of research, the complexity and collaborative nature of work scenarios have increased significantly, and the evaluation model that relies solely on outcome indicators has gradually exposed its limitations. In response to the

shortcomings of the outcome view, scholars began to focus on behavioral performance in the work process, and therefore put forward the framework for the behavior view. This perspective shifts the focus of performance appraisal from "what has been done" to "how to do it", emphasizing the impact of the specific behavioral patterns of employees at work on organizational effectiveness. It is argued that the operational efficiency of the organization and the results achieved do not represent all work performance, and the behavior of employees to accomplish the organizational goals in their work should also be regarded as work performance (Murphy, 1989). Based on the integration of these two perspectives, scholars have gradually put forward a "comprehensive view of work performance", which believes that performance should not only be reflected in the results, but should also include the specific behaviors to achieve the results. For example, Brumback (1988) found that employees' behaviors are the basis of performance results, and therefore both behaviors and results should be included in the category of work performance.

Traditionally, work performance has often been viewed as a one-dimensional concept, focusing primarily on the quality and quantity of tasks completed by employees. However, since the 1990s, researchers have come to recognize its multidimensional attributes. Campbell (1990) argues that performance should be understood as a set of work behaviors of an individual in the process of completing a task or achieving a goal. Van Scotter and Motowidlo (1996) further differentiated the social dimension of performance by subdividing contextual performance into interpersonal facilitation and job dedication. The former emphasizes interpersonal behaviors that enhance the organizational climate, while the latter focuses on employees' self-discipline and responsibility. According to Y. Han and Liao (2006), employee work performance can be divided into four dimensions: task performance, contextual performance, learning performance and innovative performance. Currently, work performance is mainly divided into two-dimensional, three-dimensional and multidimensional views. Among them, the relatively mainstream view is the two-dimensional view. Katz and Kahn (1978) proposed that employees' work performance can be divided into two dimensions: in-role behavior and extra-role behavior, while Borman and Motowidlo (1993) divided work performance into two dimensions: task performance and contextual performance. The above two frameworks have gained wide support in empirical studies and have become the mainstream theoretical foundations of performance research.

Previous research on work performance has been conducted from multiple dimensions and mainly focuses on the factors that influence work performance, including individual differences, organizational factors, and the external environment. With regard to the influencing mechanism

of work performance, existing research presents an evolutionary trend from single attribution to systematic integration, while early theories focus on individual trait theory and emphasize the fundamental role of ability, motivation, and personality traits (such as conscientiousness and openness) on performance. However, with the deepening of academic research, scholars have come to realize that work performance does not only depend on individual capability and efforts. Instead, it is also profoundly influenced by organizational environment, leadership style, and cultural climate. In general, these influencing factors can be categorized into individual factors and situational factors. On the one hand, individual differences are regarded as one of the key factors affecting work performance. Previous studies have shown that employees' personality traits, motivation levels, and cognitive abilities directly affect their performance at work. For example, employees with high self-efficacy tend to show high work performance because they believe that they can cope with challenges at work and achieve success (Zeb et al., 2024). However, it is found that relying solely on individual differences to explain fluctuations in work performance is often insufficient to fully understand the phenomenon. As a result, researchers have begun to take other factors within the organization into account, such as leadership style, work environment, and team culture. Thus, on the other hand, situational factors have become increasingly important. It has been found that supportive leadership style, positive team climate, and adequate resource support can greatly increase employees' work enthusiasm and work engagement, thereby enhancing their work performance (Aguilera et al., 2022). For example, transformational leadership can motivate employees to go beyond their daily tasks and stimulate their intrinsic motivation and creativity (Oc et al., 2023). Efficient communication and collaboration can enhance overall team performance. In addition, the impact of organizational culture on work performance has gradually become a hot research topic. An innovation-oriented organizational culture usually encourages employees to try new approaches, which enhances work performance and work innovation. In addition to the common factors mentioned above, the impact of "things" on work performance should not be overlooked. According to Sandberg et al. (2025), it is increasingly important to study the impact of things on work performance in the context of digital transformation with increasing involvement of "smart" and "enabling" technologies. In the past, researchers pay more attention to human factors, but nowadays things such as algorithms and tools are crucial in work performance.

2.3 Perceived dirty work

The term “dirty work” was first coined by sociologist Hughes in 1951 to describe occupations that are generally considered “undignified” or “undesirable” by society and culture. These jobs usually have two distinctive features. First, they are physically uncomfortable, often involving disgusting elements such as stench, filth, death, and sickness; second, they are socially under-recognized, meaning that they are not given the respect and status they deserve by the mainstream society, and in some cases, they are even in conflict with the values of “heroism” that are promoted. Hughes points out that the essence of dirty work is that it violates the social expectation of “decent work”, which is often deeply rooted in cultural values, moral judgment and social structure. As their research deepens, scholars find that many jobs that are considered “inferior” actually play an irreplaceable role in the maintenance and functioning of society. For example, dirty work practitioners include hospital nurses who care for patients in their daily lives, embalmers who deal with bodies and funeral services, sanitation workers who keep urban environments clean, and domestic helpers who provide care and support to families (Bosmans et al., 2016). Despite the high degree of social functionality of these occupations, practitioners are susceptible to social prejudice due to the fact that their work is often associated with being “dirty”, “low”, and “painstaking”. They can be easily influenced by social prejudice and marginalized in the public eye, and thus face serious identity challenges (Ashforth et al., 2017).

The understanding of dirty work is characterized by diversity and complexity across different disciplines and research perspectives. From the perspective of objective characteristics, dirty work has been defined as a “social label” determined by certain occupational attributes themselves, rather than being based solely on subjective evaluations. Based on Hughes’s theory, researchers have classified dirty work into three main types: physical dirty work, which mainly refers to those positions that directly deal with dead bodies, excreta, garbage, and toxic substances, or those that need to work in a dangerous or hazardous environment; social dirty work, which emphasizes the stigmatized attributes of the service recipients, such as working with the disadvantaged or marginalized groups for a long time, or playing subordinate roles in a social structure of “obedience-command” relationships; and ethical dirty work, which includes occupations that are considered by the society to be contrary to ethical norms or repugnant, such as those that require the concealment of the truth, the invasion of privacy, and the exploitation of human weakness.

In contrast, the subjective perception perspective focuses on how individuals “perceive” work to be decent. This perspective emphasizes that dirty work does not exist objectively, but

rather is a status evaluation constructed over time in the course of social interactions. Emerson and Pollner (1976) extended Hughes' theory by suggesting that work is more likely to be perceived as dirty by practitioners when it is recognized as "undesirable" or "damaging to self-image". Their study shows that the perceived dirty work of the mental healthcare workers increases significantly when they have to take forceful action to stop patient behavior. This cognitive experience is not only related to the content of the work, but also profoundly influenced by professional image, social opinion and self-identity. Dirty work can be subdivided into two categories: unclean work, namely, tasks that conflict with the practitioner's self-identity; and polluted work, namely, despite the prestige of the position itself, the behavioral patterns or work scenarios are perceived as "degrading" (Morales & Lambert, 2013). "Dirty" is a social construct that is not inherent in the occupation itself or in the individuals themselves, but is conferred by the individuals.

In addition, the contingency perspective emphasizes the dynamic impact of social contexts, group culture and value changes on the criteria for determining dirty work. According to Van Dick and Kerschreiter (2016), there is no such thing as an inherently dirty occupation, and it is only in a specific historical and cultural context that it is labeled as such. In other words, the generation of dirty work is relative and historical. Jobs that were devalued in certain times may be gradually "decentized" with the change of social concepts; on the contrary, some originally respected professions may be labeled as "non-decent" due to ethical disputes or professional abuses. Individuals, groups, and even subcultures also differ significantly in their perceptions of dirty work: what one person sees as a degrading job may be given a noble and respectful meaning in another social group. Thus, dirty work is not only an evaluation of occupations, but also a deeper reflection of the intertwined interaction of social power structures, cultural disciplinary mechanisms and identity processes.

Perceived dirty work is influenced by personal characteristics and job quality, and employees can also feel professional identity from dirty work by influencing the perceived value, satisfaction and pride they obtain from their work. These influencing mechanisms for perceived dirty work include redefining the nature of work and providing it with independent meaning, ensuring autonomy over work tasks, building strong and meaningful coworker relationships, and creating opportunities for task variety. Even in the most menial occupations, people tend to develop "collective conceitedness" or "dignified rationalization" in order to give value to their work and themselves in the eyes of each other and outsiders (Manchha et al., 2022). Therefore, redefining the nature of work and creating a sense of value can help to overcome negative perceptions of dirty work. By shifting attention from the undesirable

characteristics of work to the enjoyable and meaningful ones, employees can minimize the unpleasant and stigmatizing characteristics of work (P. F. Gao et al., 2023). Research has shown that for healthcare workers, enforced patient control and isolation is considered "dirty" work because it deviates from the nature of therapeutic work. Instead of dwelling on the dirty aspects of the nursing work, healthcare workers redefine nursing as a unique opportunity to live out their values. They shift their attention from the problem to caring for the patient, a strategy that also allows nurses to continually affirm the value of their work (Chiappetta-Swanson, 2005). The second core strategy used by the nurses is to compensate for the lack of institutional support by developing a standardized practice that allows them to finish their work safely, effectively, and efficiently. They have more freedom to practice independently and autonomously, and by serving patients, caring for them, crying with them, and protecting them, they gain a sense of fulfillment that makes their work easier for management (Chiappetta-Swanson, 2005; H. L. Wang et al., 2023).

Research has shown that the autonomy gained from work, job satisfaction, and beneficial relationships with colleagues can improve their work experience, thus reducing the perceived dirty work. Employees seek certain form of control over the nature and purpose of their work and establish a positive work environment, such as redesigning work boundaries and ensuring discretion over the time, pace, and type of work, so as to obtain greater satisfaction and fulfillment from their work. Colleagues can act as a collective resource that individuals can use to increase job satisfaction. Strong colleague relationships can help employees cope more effectively with their work and the identity threat represented by stigma (Deery et al., 2019). It has been confirmed that multiple support resources not only help individuals cope with stigmatization pressure, but also guide them to view their occupations in a more positive view, thereby weakening ambivalent occupational identities (H. L. Wang et al., 2024). T. B. Deng and Li (2021) found that job autonomy has a significant positive effect on perceived decent work, and emotional exhaustion partially mediates the relationship between job autonomy and perceived decent work. In terms of work tasks, studies have shown that the opportunity to perform different tasks and activities is associated with higher job satisfaction. Different work tasks usually bring new challenges and a sense of meaning in the workplace, as they enhance employees' competencies and skills, which in turn increases their satisfaction with the job itself. Thus, if dirty work involves a range of tasks and requires a variety of skills, employees may find work more motivating and satisfying.

As certain professions defy the social norms of what is considered "normal" or "clean" work, practitioners are often confronted with questions about mainstream values and are often

asked “how could you do such a job?” The impact of subjective perceptions of dirty work on individuals has been one of the focuses of research (Brown, 2015). Some scholars believe that when employees develop strong non-decent perceptions of the occupation they are engaged in, it may bring a series of negative impacts, such as a decline in social status identity, impaired sense of self-worth and sense of occupational belonging, which in turn induces occupational stigmatization, rising turnover intention, aggravation of negative emotions, increased pressure on performance, and declining job satisfaction. However, some scholars, like Clarke and Ravenswood (2019), have also pointed out that dirty work does not only bring negative consequences. In some contexts, practitioners may strengthen group cohesion by constructing positive occupational ideologies that form the psychological basis of occupational identity.

2.4 Red tape

The direct impacts of organizational commitment, work performance and job satisfaction have led to the development of a theoretical framework dominated by the “harmful theory”. At present, no consensus has been reached in terms of the definition of red tape, and the specific meaning of red tape and how to effectively operationalize it to accurately measure its existence is still a topic of continuous concern among scholars. Currently, there are mainly two different perspectives: “objective” and “subjective” perspectives.

2.4.1 Connotation of red tape

Bozeman (1993) first explicitly defined red tape from an objective perspective as “rules, regulations, and procedures that still have some effect but impose compliance burdens, and they do not contribute to achieving the functional goals of the rule”. Most scholars agree with this definition; however, as it focuses on the rules themselves, it is difficult to effectively measure the red tape. Borry (2016) defines red tape as “burdensome, unnecessary, and ineffective rules”. Hong (2020) argues that red tape is usually manifested in excessive and meaningless paperwork, high levels of formalization and procedures and rules that affect the efficiency of the organization. It can be seen that the focus of the “objective theory” is to emphasize the organizational characteristics and the practical function of rules.

As empirical research progresses, more scholars begin to support Kaufman’s (2015) “subjective theory” because of the convenience to measure red tape as a subjective perception. Bozeman (2012) revised the original conceptualization and gave a multi-dimensional definition. He defined red tape as rules and procedures remain in effect for stakeholders to follow, but the implementation cost is higher than the contribution in the achievement of the goals and values.

J. Peng and Yang (2025) viewed red tape as a role-based and individual-specific subjective perception that depends on the compliance burdens perceived by individuals in the organizational context.

Indeed, red tape is a rich social construct, and in recent years some scholars have also suggested that the objective and subjective perspectives should be integrated to explore their correlation. As a core issue in the field of public management, red tape has been increasingly emphasized, and Western scholars have conducted in-depth interpretation and discussion from different perspectives. Currently, existing studies focus on three different perspectives of red tape: "objective-subjective", "functional efficacy-mental process model", and "beneficial-harmful".

(1) Objective-subjective.

Depending on the criteria for judging red tape, there are two different perspectives: subjective and objective. Represented by scholars such as Bozeman et al. (1995), the "objective view" follows the positivist view that red tape is ineffective rules that consume organizational resources but do not contribute to the achievement of desired goals, and these rules have lost their proper function. The "subjective" perspective, originally proposed by Kaufman (1977), emphasizes that it is the individual's subjective interpretation that is decisive in making judgments about red tape. Feeney (2012) argues that red tape may only have further impact if it is perceived. Vogel et al. (2025) found that citizens' psychological costs (such as perceived discrimination) of administrative procedures are positively correlated with objective indicators, but learning is negatively correlated with perceived compliance costs, which highlights the complex interaction of subjective and objective measurement outcomes. In specific empirical studies, most scholars still tend to measure red tape from a subjective perspective, viewing it as an individual perception rather than an objective actual function of the rule.

(2) Functional efficacy-mental process model

Campbell (2020) first outlined two research perspectives of the "functional efficacy model" and the "mental process model" based on different approaches to assessing rule effectiveness. The "functional efficacy model" originates from Bozeman's understanding of rule effectiveness. He suggests that effective rules promote the achievement of desired or functional goals. In contrast, red tape refers to rules that lack such effectiveness but impose a "compliance burden". Evaluating the effectiveness of rules is a complex activity that requires stakeholders to compare benefits and costs while making judgments about the legitimacy of the objectives of the rules.

Based on the subjective judgment of stakeholders on the effectiveness of rules in the "functional efficacy model", Coursey et al. (2005) have extended the functional theory of red

tape, and proposed a "mental process model" that focuses on the evaluation of rules in terms of individual goals and experiences. This model assumes that an individual's assessment of the quality of a rule is closely related to his or her specific experience in organizational life, especially the consistency of that experience with original expectations. When individuals find that expectations of job satisfaction or other relevant states are not met, they may view rules as red tape in order to avoid responsibility. The mental process model is born out of the "subjective" perspective and places the individual's feelings at the center of the assessment.

(3) Beneficial-harmful

Based on the consequences of red tape, different scholars have further explored the beneficial and harmful aspects of red tape.

Scholars who support the "beneficial" perspective believe that red tape is a core manifestation of bureaucracy. In other words, all citizens and civil servants should be treated equally, and procedural justice and fairness should be ensured through standardized procedures, rules, and regulations, which is an unavoidable part of the political culture in order to make governmental agencies accountable to different or conflicting interests. In contrast, Brewer and Walker (2010) point out that red tape is a "bureaucratic disease" embedded in government organizations that obscures clarity of purpose, thereby creating restrictions and limitations on individuals and organizations and reducing efficiency. The "harmful" perspective suggests that red tape not only leads to negative feelings of frustration and powerlessness at the individual level, but also further inhibits the overall performance of the organization and reduces citizens' trust in government. In recent years, research has begun to break out of the simple dichotomy. Vogel et al. (2025) suggest the need to distinguish between absolute burdens (the administrative procedures that a particular group is bound to endure) and relative burdens (differences in perceptions of the same procedures), which provides a new framework for understanding the heterogeneous effects of red tape.

2.4.2 Measurement of red tape

The classification of red tape in the Western academia is still mainly based on a single dimension, and its conceptualization and measurement methods are also developing continuously on this basis. Currently, there are two major categories of measurement methods, including subjective perception method and objective measurement method.

(1) Subjective perception method

In view of the ease of measurement brought about by considering red tape as a subjective perception, the way of measurement through the use of questionnaires has been widely adopted

by current empirical research, and the indicators used for the measurement of red tape can be divided into two categories. First, unidimensional measurement indicators. Bozeman et al. (1995) developed the first questionnaire to measure the perceived level of red tape, asking organizational members to assess the level of red tape experienced in daily work activities as a whole, which is one of the most commonly used measurement items in subsequent studies. Subsequently, Pandey and Welch (2005) measured the perceived red tape of the organization in terms of budget, finance and personnel management with the help of unidimensional indicators from the perspective of management sub-systems. Second, multidimensional measurement indicators. With the increasing criticism of unidimensional indicators on its failure to manifest the complexity of the concept of red tape, Van Dick et al. (2005) developed a work-centered red tape scale, and categorized red tape into two dimensions, compliance burden and dysfunction. In addition, Borry (2016) divided red tape into a three-dimensional measurement scale containing burdensome, unnecessary, and ineffective rules, which is recognized by a number of subsequent scholars. The multidimensional measurement indicators provide finer conceptualization of red tape, thus effectively improving the accuracy of the measurement.

(2) Objective measurement method

Due to the impact of self-reporting on the accuracy of measurement results in the subjective perception method, some scholars have proposed objective measures that are more complex and rigorous in the way of measurement. For example, Bozeman and Feeney (2014) examined the level of red tape in an organization by calculating the time to complete managerial activities such as hiring and firing. Rosenfeld (1984) compared the number of changes in government procedures, rules, and paperwork requirements over time to specifically measure red tape. However, due to the cumbersome and complex nature of the objective measurement method in calculating the time required for tasks and changes in the number of rules, and the fact that the number of rules is somehow not representative of the level of red tape in an organization, the objective measurement has not been widely adopted in current empirical research.

The systematic study of red tape in Western academia began in the 1970s, and its theoretical roots can be traced back to Weber’s critique of rule-based rationality in his theory of bureaucracy. In the 1980s, under the influence of the theory of public choice, the research was briefly dormant. In the 1990s, the rise of the New Public Management (NPM) movement brought red tape, as a typical presentation of inefficiencies in the bureaucracy, back to the focus of research. Throughout the foreign studies, scholars have examined the impact of red tape on organizational commitment, job performance, job satisfaction and other factors from the perspective of the outcome variables of red tape.

With the disadvantages of bureaucracy increasingly revealed by the New Public Management movement and the negative impacts of the ever-increasing rules, regulations, and procedures, scholars mainly focus on exploring the restrictive effects of red tape, which further supports the "harmful" perspective of red tape. Giauque et al. (2012) investigated the link between red tape and turnover satisfaction with 3,754 civil servants in Switzerland as the respondents, and confirmed that red tape can, to a certain extent, predict the turnover intention. Hattke et al. (2020) found that red tape in the form of procedural restrictions exacerbates individuals' internal feelings of alienation, including powerlessness and a sense that work is meaningless. Based on the Web of Science database, George et al. (2021) carried out a meta-analysis on the 25 SSCI articles up to 2019 that explore the effects of red tape on organizational performance and individual attitudes, and ultimately found that red tape exerts different degrees of negative impacts on psychological states such as job satisfaction, organizational commitment, and employee engagement.

Although the majority of scholars support the "harmful" perspective, a few scholars have begun to focus on the potential positive effects of red tape. For example, Moon and Bretschneiber (2002) believe that red tape can stimulate the need for creativity within an organization, which in turn motivates individuals or organizations to seek innovative means such as information technology to help solve problems. The research of Blom et al. (2021) provides a new theoretical perspective for understanding the activating effects of red tape. They re-conceptualize red tape as a specific job demand and find that its impact depends on the level of job resources possessed by the individuals. When employees have sufficient job resources (such as autonomy and social support), red tape is more likely to be perceived as a challenging stressor, which motivates engagement and innovative behavior. This finding not only challenges the traditional "harmful theory", but also provides important implications for organizational management practices. Through optimization of resource allocation, red tape can be transformed into a catalyst for organizational learning. According to Y. Q. Lin (2021), red tape of civil servants has both a restrictive and activating effect on transformational organizational citizenship behaviors. There is an inverted U-shaped relationship between the two, with activation followed by restriction. Lin has verified the activating effect of red tape on public service motivation as an external stimulus.

2.5 Relevant moderators

2.5.1 Occupational safety

Occupational safety is an area that deals with the development, promotion and maintenance of workplace environments with policies and programs that ensure the mental, physical and emotional well-being of employees, as well as keep workplace environments relatively free from actual or potential hazards that could harm employees. The concept of occupational health and safety is not new to the business community, especially in the manufacturing and processing industries, which are considered to be more dangerous and disruptive to workers, but receives seldom attention in the service industry including the health sector. However, an empirical study by Adamopoulos and Syrou (2022) show that mental health institutions are increasingly becoming the most dangerous work environments within healthcare organizations in many countries across the world.

Workplace violence is a common occupational safety issue in clinical settings that can exert detrimental effects on healthcare workers, such as reduced job satisfaction, commitment and efficiency, poor quality of life (QOL), increased stress, burnout, accidents and illnesses, and even death (Kafle et al., 2022). Among the healthcare workers, psychiatric nurses typically face a higher risk of violence than other clinicians because they spend the most face-to-face time with mentally ill patients suffering from mood disorders and psychotic symptoms that can lead to sudden, unexpected, and sometimes illogical acts of violence. Nurse factors, patient factors, and contextual factors have been identified to be associated with workplace violence of psychiatric nurses (Hallett et al., 2023). A history of prior violence, severe psychiatric symptoms and poor treatment adherence in psychiatric patients, and overcrowded psychiatric wards increase the likelihood of violent behavior. Workplace violence damages not only the physical health, but also the mental health of healthcare workers. Victims may suffer from physical and mental stress and high levels of anxiety.

In recent years, WHO and many countries have made significant efforts to recognize hospitals as important sites for health promotion activities. One such effort is the WHO's Health Promoting Hospitals Initiative (HPH). The HPH Initiative promotes the health of patients, staff, and communities by improving the culture, organization, environment, and processes of hospitals to improve the health of staff and promote a healthy work environment (Pelikan et al., 2001). Studies show that job content, individual characteristics, leadership styles, and patient-staff relationships are important factors affecting perceived occupational safety (Y. Tang &

Hunag, 2022; Y. Wang et al., 2022). In mental healthcare institutions, the aggressive behavior of patients is an important factor affecting perceived occupational safety of the healthcare workers. In psychiatric nursing, isolation and mechanical restraints used on psychiatric patients can create occupational safety dilemmas for nurses. On the one hand, these coercive restraints protect the safety of patients and healthcare workers by managing patients' aggressive behaviors, but on the other hand, the coercive techniques and the environment itself may increase patients' aggressive behaviors, which may further increase the use of restraints and expose nurses to occupational hazards.

Individual factors such as job satisfaction and job interest, and organizational factors such as leadership styles and leadership behaviors are also factors that influence occupational safety. Nurses with higher job satisfaction and job interest present better perceptions of safety climate in the workplace. Empathic leadership style and fairness in leader-subordinate interactions exert a positive impact on improved interpersonal relationships, quality of the work environment, and perceived safe climate, which in turn improves work performance, such as reduced rate of medication errors reported by healthcare workers, turnover intention and emotional exhaustion (Squires et al., 2010). In the model proposed by Ford and Tetrick (2011), perceived occupational hazards of the employees affect safety performance through psychological empowerment and perceived organizational identity, and perceptions of supervisors' safety practices are moderators of organizational identity, psychological empowerment, and safety performance. Safety practices of the supervisors, as a component of the management's commitment to safety, reflect the implementation of organizational policies and procedures in each work unit and help mobilize employee motivation to improve safety performance. When supervisors do not explicitly prioritize safety and instead place other performance goals as the priority, psychological empowerment and organizational identity may cause employees to engage in behaviors that achieve other performance goals at the expense of safety (Haines et al., 2017).

Occupational safety not only affects the work status of healthcare workers, but also the safety of patients as a result. Research shows that hazardous work environments are related to low pay satisfaction, low overall job satisfaction, low organizational commitment, and high level of task distraction (Ford & Tetrick, 2011).

For healthcare workers, their perceived occupational safety is closely related to their job satisfaction. The job satisfaction of nurses is positively correlated with their perceived occupational safety, and high perceived occupational safety among nurses leads to high job satisfaction within the organization. Low perceived occupational safety also leads to higher

burnout. In more stressful psycho-social work conditions, such as high demands and high risk of burnout, employees will have lower perceptions of occupational safety culture. Increased job satisfaction and reduced psycho-social stressors (such as patient-related burnout and work-privacy conflicts) may contribute to improved occupational safety culture (Wagner et al., 2018).

Occupational safety is also closely linked with patient safety, and related research has explored how organizational safety culture positively affects patient safety, such as patients suffering fewer medical errors, receiving better care, and having higher satisfaction. Applebaum et al. (2010) found that reinforcement of the safety culture enhances nurse satisfaction and reduces patient-related adverse events; conversely, the frequent occurrence of workplace violence exacerbates nurse burnout, which poses a threat to patient safety. Another study investigated the relationship between occupational safety culture and patient safety culture. Pousette et al. (2017) surveyed physicians and nurses in Sweden, and their findings indicate that the two safety cultures have strong positive correlation with each other. They suggest that comprehensive and coordinated interventions to improve safety culture should be accompanied by a focus on occupational safety and patient safety.

2.5.2 Organizational learning climate

The concept of organizational learning climate is derived from the more fundamental theoretical category of organizational climate. Organizational climate refers to the cooperative mechanisms formed by members of an organization in the process of achieving common goals, and is described in organizational theory as the collective perceptions and feelings of individuals about their work environment (Ghanbari & Eskandari, 2013). This shared psychological experience will have an important impact on members' behavioral motivation and will be adjusted with changes in the external context, which is a relatively stable internal environmental characteristic that can reflect the uniqueness of the organization (James et al., 1984). With the deepening of research, scholars began to explore from more specific dimensions, and gradually developed a variety of sub-categories such as organizational learning climate, integrity climate, and security climate.

The organizational learning climate is considered to be closely related to employees' ways of thinking, emotional experiences, and behavioral responses, reflecting the general perception of learning behaviors and knowledge sharing within the organization. This climate is a shared understanding of organizational learning activities that encourages members to actively share experiences and skills in order to collectively contribute to organizational performance. Organizational learning climate describes how members assess the learning attributes of the

organization, which can improve work outcomes by influencing their active learning behaviors (Mikkelsen et al., 1998). The resource-based theory suggests that the organizational learning climate is an intangible strategic resource that exists within the structure of the organization and its presence can help the organization improve its overall competitiveness (Hurley & Hult, 1998). From the perspective of the work environment, the organizational learning climate can be understood as employees' overall perception of whether the organization encourages and supports learning in terms of policy formulation, management mechanisms, process design, and incentive systems. This shared perception reflects whether the organization has the environmental basis to promote internal learning behaviors (T. Y. Han & Williams, 2008).

According to the existing definitions, it can be concluded that most of the definitions of organizational learning climate agree that it is an intangible resource possessed by the organization, and it has the characteristics as follows. In essence, organizational learning climate is a shared perception among members. In addition, this common perception helps to stimulate employees' motivation to learn, so that members of the organization generally feel a positive climate that encourages the acquisition of new knowledge, promotes the exchange of knowledge, and enhances personal value and work performance through continuous learning.

The Learning Climate Questionnaire (LCQ), which was first proposed to measure organizational learning climate, consists of seven dimensions including management style, time, autonomy and empowerment, team style, developmental opportunities, guidance to the job, and satisfaction (Bartram et al., 1993). From the perspective of organizational resources, Hult (1998) considered organizational learning climate as a high-order construct and measured it using a scale containing a total of 17 items in four dimensions, namely, team orientation, system orientation, learning orientation, and memory orientation. Team orientation reflects the tendency of organizational members to collaborate and communicate in the development of activities and decision-making processes; system orientation describes the decentralized or centralized characteristics of the organizational structure and whether employees have autonomy; learning orientation refers to the degree of attention given by the organization to learning activities; and memory orientation involves the extent to which knowledge is disseminated and institutionalized within the organization. Subsequently, B. Yang et al. (2004) further proposed the DLOQ scale for measurement of learning organizations, which consists of seven dimensions: continuous learning, which indicates that the organization provides continuous learning opportunities for all members; inquiry and dialogue, which refers to the organization's need to create a culture of inquiry, feedback, and organizational experimentation; team learning, which is the spirit of cooperation and collaborative skills to strengthen the role

of the team; empowerment, which expresses the process of the organization to create a shared vision and give autonomy to the employees; embedded structure, which refers to the need for organizations to create and manage a shared knowledge system; system connectivity, which reflects global thinking and the process of connecting the organization to its internal and external environments; and strategic leadership, which shows the systematic thinking of leaders about how learning can be used to create changes as well as push the organization to new directions or markets. Based on the previous research, Nikolova et al. (2014) proposed a three-dimensional scale of organizational learning climate, including three core constructs: supportive climate (the organization's encouragement of learning behaviors and guarantee of resources), rewarding climate (whether the learning achievements are recognized and incentivized), and service management climate (whether the organization creates an environment that is conducive to continuous learning and knowledge application on the management level).

Most scholars regard climate as a mediator of the relationship between the organizational environment and the psychological and behavioral responses of organizational individuals, and the results regarding the specific effects of organizational learning climate on members focus on three aspects: individual attitudes, behaviors, and job performance. In terms of individual attitudes, a high organizational learning climate can exert a positive impact on learning motivation (R. Y. Gao, 2023), job satisfaction (Lases et al., 2019), organizational commitment (R. Wang, 2022), and can help reduce turnover intention (Snoep, 2018) as well as the emotional exhaustion (Van Ruysseveldt et al., 2011) that may arise from work. Behaviorally speaking, enhancing the organizational learning climate promotes individuals' knowledge-sharing behaviors (Gara Bach Ouerdian et al., 2019), innovative behaviors (Eldor & Harpaz, 2019), and work engagement (Restrepo et al., 2022). In addition, the enhancement of organizational learning climate also helps improve job performance of the members (Hendri, 2019).

In terms of the specific mechanism of action, some scholars tend to take self-efficacy and autonomous demands as the mediating variables for the relationship between organizational learning climate and individual behavior, arguing that by encouraging employees to learn continuously and creating learning paths for employees, the organization can enhance the individual's perceived control and competence at work, which in turn generates a positive work attitude. Cao et al. (2019) conducted an empirical study and found that organizations or teams with a strong learning climate can significantly improve their job performance by increasing individual self-efficacy. Similarly, Mian and Al Lihabi (2023) investigated a group of college students and found that perceived support for learning and knowledge-sharing behaviors among

peers could help individuals build self-efficacy, thus improving the perseverance and persistence of their own learning behaviors. Restrepo et al. (2022) focused on individual psychological needs based on the perspective of self-determination theory and took clinicians as the research subjects. They confirmed that organizational support for learning behaviors can satisfy members' needs in terms of autonomy, competence, and relationships, thereby increasing their work engagement.

In addition, the mediating mechanism played by individual affective and attitudinal variables has also attracted the attention of scholars. A strong learning climate means that the organization supports and rewards employees' learning behaviors and encourages them to learn from each other and cooperate with each other, which can help individuals establish a deeper connection with their teammates as well as their own work. In the affective-attitudinal pathway, the learning climate enhances affective commitment by reinforcing the perception of meaning. Hendri (2019) found that that the organizational learning climate can enable employees to perceive self-growth and the importance attached by the organization to themselves, increase job satisfaction and organizational commitment, and thus enhance their job performance. Meanwhile, many scholars have revealed the mediating role played by work engagement. Yovav and Harpaz (2021) conducted an empirical study on public sector employees and found that improving the learning climate significantly enhances individual work engagement, which leads to stronger motivation and more resources for innovation. J. Peng and Chen (2023) also proved the positive role played by work engagement in the relationship between organizational learning climate and individual performance. Caniëls and Baaten (2019) found that an organization's learning climate has a significant positive effect on employees' proactive work behaviors, proactive strategic behaviors, and proactive environmental fit behaviors, with employee resilience playing a mediating role.

2.5.3 Job crafting

The concept of job crafting originates from the background that traditional job design gradually fails to meet the individualized needs of employees. Although the top-down job design model has significantly promoted employee performance and organizational performance for a period of time, with the evolution of the times and the awakening of employees' subjective consciousness, work has gradually been given the meaning of self-actualization and personality expression, rather than just a means of earning a living. Wrzesniewski and Dutton (2001) put forward the term job crafting for the first time, and they believe that it is a process in which individuals proactively adjust the boundaries of work tasks, interpersonal relationships and

work meaning based on their work roles. The specific forms of job crafting can be divided into three categories: task crafting refers to employees' initiative to change the quantity, manner or scope of their work tasks; relationship crafting involves adjusting the frequency or quality of their interactions with others at work; and cognitive crafting refers to the process of employees' redefinition and understanding of the meaning and value of their work.

From the perspective of individual needs, Bruning and Campion (2018) further point out that job crafting embodies a proactive adaptive behavior, in which employees actively seek challenges, acquire work resources, and consciously avoid tasks that may lead to exhaustion by tapping into their own strengths. In this process, employees not only adjust the task itself, but may also enhance their own resource pool through coworker support, supervisor mentoring, or training opportunities. These behaviors reflect employees' spontaneous adjustments to improve job fit and satisfaction.

Overall, all of the above definitions emphasize job crafting as a bottom-up proactive behavior whose core driving force stems from an individual's intrinsic motivation, such as enhancing a sense of control over work, improving self-image management skills, and satisfying interpersonal needs. This kind of proactive behavior not only helps to promote the development of the enterprise, but also promotes the personal growth and professional satisfaction of employees.

At the measurement level, due to slight differences in the academic understanding of the concept of job crafting, the assessment tools and dimensions used in different studies vary. These measurement tools are usually constructed on the basis of their respective definitions, reflecting the diversity of research perspectives and theoretical foundations. Relatively widely applied tools are the three-dimensional job crafting questionnaire developed by Slemp and Vella-Brodrick (2013) and the job crafting questionnaire developed by Tims et al. (2012). The three-dimensional job crafting scale has certain industrial limitations and it is developed purely from the dimension of job tasks. The four-dimensional questionnaire is more cross-culturally stable and has been widely used in the Chinese context (W. W. Zhou et al., 2023). Some scholars have also studied job crafting measurement methods with Chinese cultural applicability and characteristics. Q. Hu et al. (2017) developed a job crafting scale reflecting the doctrine of the mean based on the Job Demands-Resources model, which measures the behavioral model of the doctrine of the mean from two dimensions: individual orientation and group orientation. Qin et al. (2020) improved the measurement of job crafting based on the Yin-Yang Harmony cognitive framework and the Job Demands-Resources (JD-R) theory. In addition, scholars have developed corresponding job crafting scales for specific fields and

occupations, including job crafting scales for primary and secondary school teachers (Y. J. Qi & Wu, 2016), knowledge-based employees (Z. Wang et al., 2019), manufacturing employees (Ghitulescu, 2015) and the nursing team (R. X. Fang et al., 2024). These scales have enriched, to varying degrees, the application and research of job crafting theory in specific occupational areas.

The antecedent variables of job crafting can basically be categorized into the following four groups: individual traits, motivation, job characteristics, and external social contextual factors (F. Zhang & Parker, 2019).

At the level of individual traits, there is a large number of studies on personality. Laguía et al. (2024) found that extroversion, agreeableness, and conscientiousness in the Five-Factor Model significantly and positively predicted job crafting developing toward a favorable direction (F. Zhang & Parker, 2019). Research has also demonstrated a moderated direct effect between positive personality and job crafting (Ruan & Guo, 2022). Gong et al. (2020) found that preoccupation can facilitate job crafting by stimulating work engagement. M. Zhang and Lin (2021) found that employees with high self-efficacy are more likely to engage in job crafting behaviors.

At the motivational level, research has shown that an individual's sense of calling to his or her profession can significantly enhance his or her sense of work mission, which in turn positively influences the occurrence of his or her job crafting behaviors (Y. L. Luo et al., 2020). Employees with a high level of harmonious passion tend to take the initiative to make reasonable and standardized adjustments and optimization of their current work tasks and interpersonal relationships out of the motivation to satisfy the need for autonomy (Jiang et al., 2019). Among external situational factors, leadership style is one of the important variables affecting job crafting behavior and has also attracted widespread attention in recent years. It has been shown that different types of leadership styles, such as empowering leadership, servant leadership, and workaholic leadership, have good validity in predicting employees' job crafting behaviors to different degrees (H. M. Zhang et al., 2023). In addition, external factors such as algorithm management and telecommuting intensity also exert an impact on job crafting (W. Wei & Liu, 2023; H. M. Zhang et al., 2023). Social resource acquisition mechanism in interaction among colleagues is also crucial. Research has shown that employees actively shape the social environment through daily flattering behaviors to gain more support, and such social resources can significantly reinforce task crafting behaviors in job designs with insufficient structural resources (D. Shi et al., 2025).

From the perspective of job characteristics, job crafting is an individual's overall response to the job demands and job resources. There is an interaction between structural resources (such as task variety and autonomy) and social resources: when structural resources are low, employees rely more on interpersonal strategies (such as flattery) to gain support to promote task crafting (D. Shi et al., 2025). Y. S. Ma and Zhang (2024) found that job innovation demands significantly contributes to employee creativity, and task crafting plays a partially mediating role in the relationship between innovation demands and employee creativity. According to Y. X. Wang and Zhou (2024), the threat of human-computer collaborative identities has weakened employees' perceived person-job fit, which in turn reduces cognitive crafting. A study on the group of nurses shows that the category of their psychological capital is an influencing factor of their job crafting (J. J. Ma et al., 2024).

Regarding external social contextual factors, T. T. Tu and Zhao (2023) found that the work scenario of telecommuting has a significant positive impact on employees' job crafting behaviors, which in turn affects their innovative behaviors. In the context of digitization with widespread application of AI, the impact of the intensity of AI events as a new type of external contextual factor on job crafting is becoming increasingly prominent. Bai et al. (2025) found that the introduction of AI-enabled smart service robots (such as hotel reception robots and cleaning robots) into an organization is regarded as a high-intensity organizational event by employees, which may simultaneously trigger dual psychological responses by the employees and drive them to optimize human-machine collaboration patterns through job crafting. Moreover, employees are more likely to develop AI anxiety, which drives them to adopt either facilitative job crafting or defensive job crafting (Y. Q. Zhang & Chen, 2024). Similarly, AI awareness developed by employees in the context of digital intelligence promotes them to adopt approach human-machine crafting and avoidance crafting behaviors (Gui et al., 2024).

Job crafting is an adaptive strategy for employees to actively optimize their work experience, and its mechanism of action has formed a multidimensional research system. Existing studies mainly examine the outcome variables from two dimensions: cognitive attitudes and work behaviors, and have been gradually expanded to the organizational ecosystem level.

In terms of cognitive restructuring, job crafting facilitates individuals' construction of work meaning through role definition. The classic study of Wrzesniewski et al. (2003) shows that task crafting can enhance the sense of meaning and identity of work by changing its cognitive framework. This finding has been validated in the Chinese context. The longitudinal tracking of Yin et al. (2019) shows that employees' task crafting contributes to their sense of meaning at

work, and relational crafting enhances the sense of organizational belonging through the social embedding mechanism. In addition, emerging research has begun to focus on cognitive synergy effects. G. Yang and Lu (2023) innovatively found that coworker job crafting creates a "ripple effect", with overall job insecurity decreasing by 19.8% when 30% of team members implement job crafting. This social-cognitive interaction mechanism provides new ideas for organizational-level interventions.

The impact of job crafting on behavioral outputs presents the characteristic of multiple paths. As for job crafting, employees can expand, utilize, and maintain resources to reduce work stress and increase their level of engagement (Bruning & Campion, 2018). In terms of innovative behavior, the tracking experiment of Y. Zhao (2020) shows that employees who enhance their psychological capital during the process of job crafting are more likely to exhibit higher levels of innovative behavior, which is a theoretical echo of the "resource-path" model proposed by Q. Zhou et al. (2012). As for the public sector, Y. Q. Lin and Lan (2023) empirically examined the role of job crafting in facilitating civil servants' transformational behaviors. H. X. Zhao et al. (2024) found that job crafting exerts an inhibitory effect on burnout. A study of overseas R&D employees of multinational companies found that employees can adapt to the work environment and task requirements by using job crafting behaviors to mitigate the negative effects of unclear role orientation (Y. Liu et al., 2018).

2.6 Theoretical foundation: Job demands-resources model

The Job Demands-Resources Model (JD-R model) is one of the most important theoretical frameworks currently used in the study of job stress and burnout to explain how job characteristics affect the level of burnout among employees and is commonly used in research related to job satisfaction, burnout (Demerouti et al., 2001), organizational commitment (Bakker & Demerouti, 2007), and job performance. Demerouti et al. (2001) first proposed the Job Demands-Resources (JD-R) model framework in the Journal of Applied Psychology in 2001.

The JD-R model summarizes the various types of characteristics in the work environment into two basic dimensions: job demands and job resources. Job demands refer to the physical, psychological, social or organizational factors that individuals face in the course of performing their duties, such as high intensity workload, ambiguity of duties, physically demanding tasks, and conflicts between work and family. In contrast, job resources cover various supportive elements that can help employees achieve their work goals, reduce work stress, or promote

growth and development, such as autonomy, support from colleagues and superiors, timely feedback, fair incentives, space for career development, and a sense of fairness in the organizational environment (Demerouti et al., 2001).

Job demands and job resources stimulate two potential psychological response processes respectively: the health impairment process and the motivational activation process (H. Sun & Xu, 2023). The so-called health impairment process refers to the fact that employees are subjected to excessive workloads due to improper job design, and if they lack the support of appropriate job resources, they will be in a state of constant depletion of their physical and psychological resources for a long period of time, which will lead to physical and mental health problems, such as stress reactions and burnout, and make them feel extremely exhausted (Bakker & Demerouti, 2007). In contrast, the process of motivational activation emphasizes the motivational function that job resources have, and adequate resources can significantly increase the level of employee engagement in their work and promote their performance. Therefore, there is a positive correlation between job demands and burnout, and a positive correlation between job resources and work engagement.

With the continuous evolution of the JD-R model, Xanthopoulou et al. (2007) have gradually incorporated personal resources into this theoretical framework, viewing them as one of the important moderators at the individual level. The first to propose the concept of personal resources was Hobfoll, who categorized resources in the Conservation of Resources Theory (COR theory). According to Hobfoll, personal resources can be categorized into two types: broad-sense and narrow-sense personal resources. Broad-sense personal resources cover resources in terms of physical health (such as physical fitness status), social relationships (such as interpersonal support), cognitive abilities (such as complexity of knowledge structures), and psychological qualities (such as self-efficacy) (Y. Liu, 2015). Narrow-sense personal resources, on the other hand, focus more on positive self-perceptions related to psychological resilience, emphasizing an individual's confidence in his or her ability to cope with the environment and control outcomes (Hobfoll et al., 2003). In the JD-R model, the personal resources referred to are mainly in the narrow sense. In recent years, researchers have explored the functions and mechanisms of personal resources in different groups through a variety of empirical methods, including cross-sectional surveys, longitudinal tracing, and diary methods. Xanthopoulou et al. (2009) showed through a diary-based study that personal resources are important factors influencing work engagement, and can support and motivate work engagement physiologically and psychologically. Tremblay and Messervey (2011) found that with high levels of personal

resources, the influence of job demands on job stress is significantly reduced. In other words, personal resources partially moderate the influence of job demands on job stress.

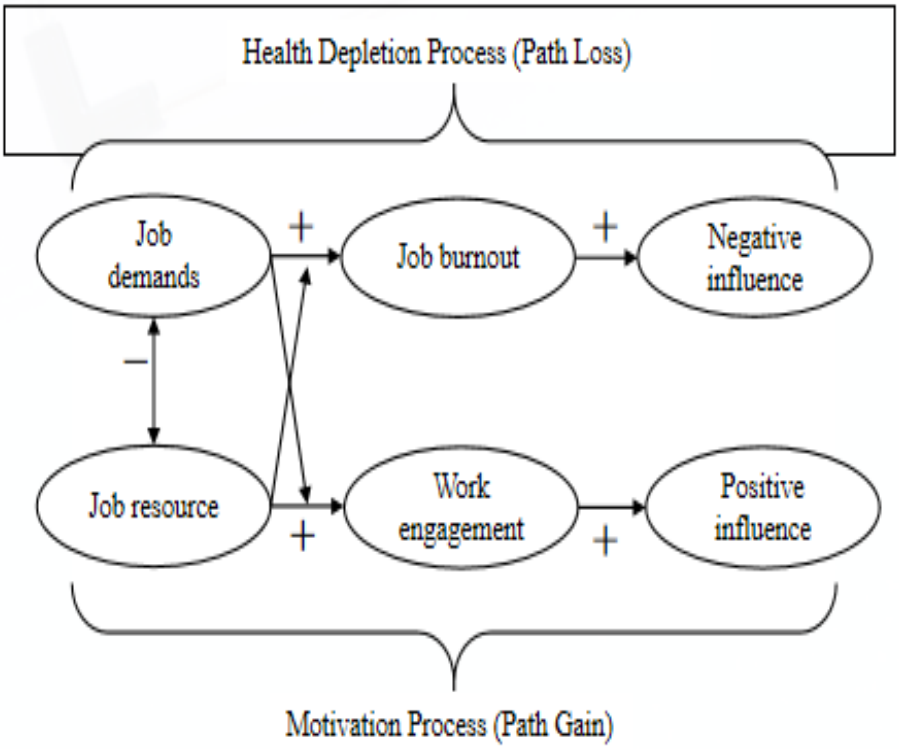

Figure 2.1 Job demands-resources model

Source: Demerouti et al. (2001)

The reasons and rationale for choosing the JD-R model in this study are as follows: (1) The generality and extensibility of the theory. The JD-R model can cover different job demands and resources in various types of occupations, and has good structural elasticity, which is suitable for analyzing the psychological and behavioral mechanisms of individuals in complex, high-pressure occupational environments. (2) Strong mechanism explanation. The model emphasizes the interaction between job demands and resources, which can explain both the depletion path (resource depletion leads to burnout and performance decline) and the motivation path (resource acquisition stimulates positive motivation), which fits the reality of the mental healthcare workers facing dual pressure and resource shortage. (3) Applicability to emotional labor-intensive occupations. The JD-R model has been widely used in medical, education, nursing, and other high-emotional labor industries, and its logical structure is particularly suitable for analyzing the psychological reactions and behaviors of mental healthcare workers. (4) Room for theoretical innovation. By introducing variables such as perceived dirty work and red tape, as well as multivariate moderators, this study expands the boundaries of the application of the JD-R model in stigmatized occupations, and has the potential to extend the theory.

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Chapter 3: Research Model and Research Hypotheses

3.1 Research model

The research model of this thesis is presented as per Figure 3.1.

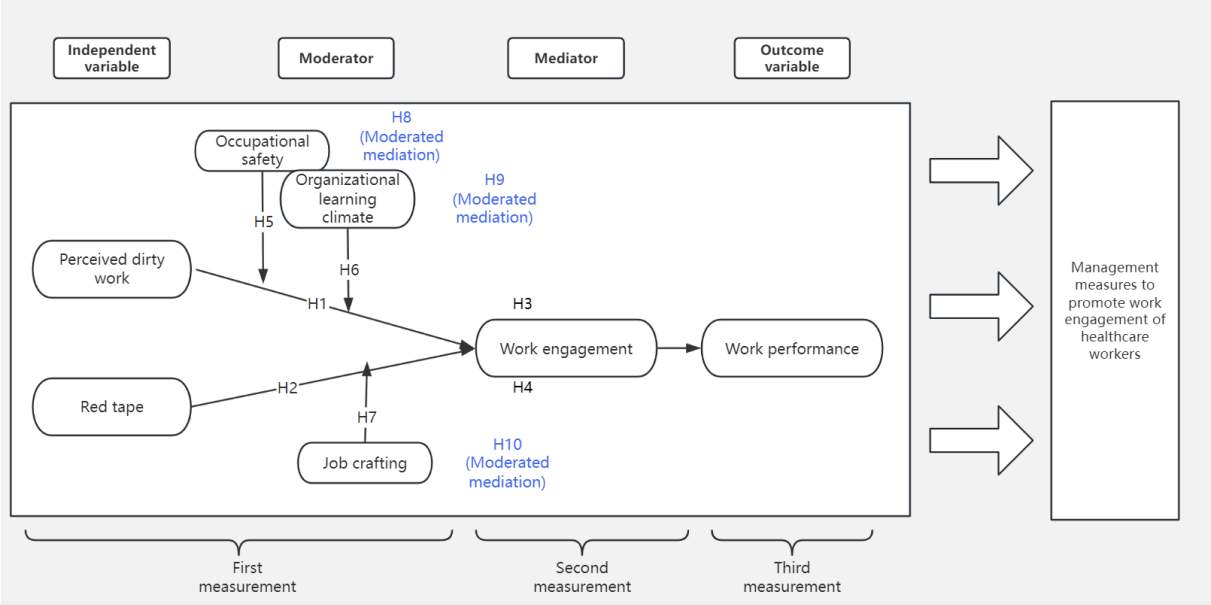

Figure 3.1 Research model

3.2 Research hypotheses

3.2.1 Influence of perceived dirty work on work engagement

Based on previous research on work occupation and identity management, it is known that occupation is the core factor for individuals to construct positive self and existential value, and it is of great research significance to pay attention to the impact of special organizational or occupational status on work engagement. As an occupation that is necessary for the normal functioning of society, but is devalued or disliked by the public, those engaged in dirty work often face value questioning from the mainstream consciousness of society, and the question of "why do you do this kind of work" makes them face a serious crisis of occupational identity (Ashforth et al., 2017). Given that dirty work is often perceived as bad or contrary to social norms, practitioners are also seen as stigmatizers, or as "dirty work practitioners", and this negative perception of the occupation leads to occupational stigmatization. As a result, the

healthcare workers are aware that their work is not respected, which results in negative work outcomes (Schaubroeck et al., 2018).

The perceived dirty work stems mainly from the disgraceful characteristics of the occupations themselves (Kan et al., 2024), which can be subdivided into three dimensions. At the physical level, such work often involves the performance of jobs in hazardous environments, such as firefighters and miners, or frequent contact with unpleasant materials, such as cleaners and butchers. At the moral level, perceived dirty work may involve behaviors that go against the moral norms of society (G. L. Zhang et al., 2022), such as the work of paparazzi and private detectives, or occupations that often employ deceptive or uncivilized means, such as debt collectors and certain insurance salesmen. At the social level, perceived dirty work often requires practitioners to come into contact with social groups that are perceived by the public as undesirable, such as the work of prison guards and forensic pathologists, or to engage in service occupations that are perceived to be low-status and of a servant nature, such as chauffeurs and babysitters (Ashforth & Kreiner, 2014a).

The perceived dirty work, as a significant source of stress, has a profound impact on the performance and mentality of healthcare workers (G. L. Zhang et al., 2021). It is found that dirty work is a key factor to trigger stress of healthcare workers (Y. Zhang & Li, 2017), which in turn acts on their work status and behavior. Previous research has confirmed the negative impacts of perceived dirty work, including triggering individual stress, negative emotions, job burnout, and anti-productive behaviors (G. L. Zhang et al., 2022). These negative consequences not only weaken healthcare workers' work performance, but also significantly reduce their work engagement. In addition, the perceived dirty work, as a negative self-concept, has significant psychological and behavioral consequences, especially among healthcare workers. In the field of mental health, the perceived dirty work is closely related to the negative social stereotypes of the profession. This negative social evaluation triggers psychological reactions on multiple levels, which further affects the healthcare workers' work engagement. When healthcare workers perceive that the work they do is devalued or neglected by society, they may feel shame, anxiety, or even low self-esteem, which affects their work enthusiasm and engagement. Based on the cognitive appraisal theory, Kan et al. (2024) concluded that perceived dirty work negatively affects employees' proactive service behaviors through a multi-period tracking study of 460 odd-job workers, and these negative effects inhibit their work engagement by affecting their work vitality and enthusiasm.

According to the Job Demands-Resources model (JD-R model), the perceived dirty work can be considered as a kind of job demand, which brings psychological burdens and stress for

healthcare workers and consumes their psychological resources (Bakker & Demerouti, 2017). The negative impact of perceived dirty work on work engagement is particularly significant in the specific group of healthcare workers in mental health institutions. First, perceived dirty work can cause healthcare workers to generate emotional distress and psychological stress in the face of negative evaluations. In mental health centers, healthcare workers often feel stigmatized from society and others about their work. Mitake et al. (2019) contend that long-term exposure to negative evaluations or social prejudice tend to make the healthcare workers generate strong negative emotions such as distress, anxiety, anger, and even shame. As their emotions deteriorate, they try to escape from the situation or reduce their engagement. This escape mechanism directly leads to a reduction in their work enthusiasm and engagement. Especially in an environment such as a mental health center, which requires high emotional labor and long-term focus, such negative emotions can seriously interfere with healthcare workers' daily work performance. It is found that workplace stigma is strongly associated with healthcare workers' turnover intention, job dissatisfaction, low self-esteem, and decreased work engagement.

Second, perceived dirty work can lead to low sense of social status and self-identity as well as professional identity among the healthcare workers. When individuals perceive that the work they do is not respected or even negatively evaluated or devalued by society because of social prejudice, they tend to internalize this external evaluation, generating a low opinion of their profession and an identity crisis (Ashforth & Mael, 1989). This internalized psychological mechanism prevents individuals from gaining the professional pride they deserve from their work and may even lead to feelings of shame and inferiority. The decline in self-perception not only weakens their sense of professional identity, but also reduces their enthusiasm and engagement. As an important psychological mechanism affecting work engagement, the breakdown of professional identity means that individuals tend to be satisfied with merely fulfilling the basic requirements of their job and lacking the energy, enthusiasm, and motivation to provide additional services or make innovation (H. L. Wang et al., 2022). In the field of mental health in particular, this negative effect is exacerbated by the negative social stereotypes of the profession.

In addition, the presence of perceived dirty work may also lead to a lack of social support for healthcare workers, which further exacerbates their sense of isolation and helplessness. The negative effects of perceived dirty work are further amplified by negative public stereotypes of the mental health work. Mental health has long faced social cognitive bias, with some people believing that the mental healthcare workers are engaged in "low value" or "stigmatized" work.

Such stereotypes undermine the possibilities of healthcare workers to obtain social support, and they often feel that there is insufficient support from society and organizations, and they have difficulty in obtaining the necessary emotional and work support from the public, their colleagues or their leaders (Pappa et al., 2020). The lack of such support not only makes them feel emotionally isolated and helpless, but also makes them lack coping resources when facing professional challenges. It not only limits their flexibility in work performance, but also diminishes their ability to cope with complex situations and stay engaged in their work, which in turn reduces their willingness to offer help or services, and ultimately decreases their work engagement and emotional commitment.

Finally, perceived dirty work can reduce healthcare workers' autonomy, sense of control, and accomplishment by affecting their psychological need fulfillment, which in turn weakens their work engagement. According to the self-determination theory (Ryan & Deci, 2000), an individual's work engagement is closely related to the fulfillment of his or her psychological needs. When healthcare workers perceive that their work is undervalued by society, they will feel that their professional value is not recognized and their intrinsic motivation is suppressed. This sense of suppression causes them to lack autonomy at work, which is a central factor influencing an individual's active participation and sustained performance. When healthcare workers feel controlled and lack autonomous control over their work due to perceived dirty work, they have difficulty in obtaining a sense of accomplishment and self-satisfaction from their work, and their intrinsic motivation decreases significantly. As a result, they present indifference and detachment from their work, and their willingness to withdraw rises significantly. The Job Demands-Resources Model further suggests that the absence of psychological demands not only weakens individuals' motivation, but also reduces their proactive and innovative behaviors, which in turn affects work engagement (Broeck et al., 2016). In mental health centers, work tasks that are highly dependent on emotional labor and empathy require proactive engagement from healthcare workers, and the decline in autonomy and sense of control resulting from perceived dirty work undermines the motivation for such engagement.

On this basis, the following hypothesis is proposed.

H1: There is a significant negative correlation between perceived dirty work and work engagement among healthcare workers.

3.2.2 Influence of red tape on work engagement

"Red tape" can be understood as a series of cumbersome, burdensome and often meaningless rules, regulations and processes that exist within an organization. These rules are still enforced, but the positive effect they have on the achievement of stakeholder goals or values is often far less than the cost of complying with and enforcing them. Red tape becomes a burden in the functioning of the organization, as they consume resources but fail to deliver corresponding benefits or value. From another perspective, red tape can be viewed as an overly formal management tool that makes the organization's operations rigid and inefficient (X. J. Wang, 2024). While these rules may be initially made to ensure organizational stability and normality, in practice, they often become a stumbling block to innovation and efficiency. As a type of regulation, procedure, or format that is redundant, rigid, or meaningless in decision making or decision implementation, red tape refers to a number of constraints faced by employees in the work process (J. P. Rosenfeld et al., 1984). These constraints include both laws, regulations and procedures; as well as influences exerted by the political system, the media, or interest groups (Baldwin, 1990). Therefore, red tape should be distinguished from the "formalization" of organizations as it highlights the negative impact of rules and procedures on organizational performance (Pousette et al., 2017). Red tape has been recognized as one of the main factors hindering healthcare workers' motivation and engagement (Kohnen et al., 2023). It not only increases the compliance burden on healthcare workers, but also limits their behavioral choices and reduces their work autonomy, leading to a significant decrease in work engagement.

The JD-R model is a theoretical model widely used in the fields of organizational behavior and work psychology, and it explains how various factors in the work environment affect employee engagement and work performance (E. H. Hu et al., 2023). In this model, job demands refer to the efforts and resources required to complete a job and are usually associated with job stress and physical and mental exhaustion. Red tape, a common job demand factor, depletes employees' time and energy by increasing their psychological burden and emotional stress, which in turn affects their work engagement efficiency (Bakker & Demerouti, 2007). While these rules and procedures may help to ensure the standardization of certain work processes, they often come at the cost of inefficiency and procrastination that diminish the motivation and incentives of the healthcare workers. Excessive job demands, especially task burdens due to red tape, can affect healthcare workers' autonomy and flexibility and reduce their work engagement, which can lead to a decline in work performance (Bloom et al., 2020).

It has become an academic consensus that red tape is an inhibitor of work engagement. Gore (1993) views red tape as a "roadblock" to the improvement of employee work engagement, arguing that red tape can cause organizational members to be overcautious, which is extremely detrimental to the normal functioning and performance improvement of the organization. First, red tape increases healthcare workers' feelings of internal alienation. According to Kohnen et al. (2023a), when employees spend a great deal of time and energy in tedious administrative tasks, they feel that their work becomes meaningless or disconnected from their career goals. This feeling stems from employees' sense of powerlessness and loss of value for their work, which in turn leads to a significant decrease in their job satisfaction and organizational commitment. For healthcare workers, red tape means that they are unable to focus on patient care or utilize their professional skills, and this meaninglessness can lead to burnout and ultimately affect work engagement (Borst et al., 2020).

Second, the work efficiency of healthcare workers is seriously affected by red tape. When healthcare workers have to invest a great deal of time and energy to deal with tedious administrative matters, their work flexibility and autonomy are greatly reduced. According to the self-determination theory (Ryan & Deci, 2000), an individual's work engagement is directly influenced by his or her psychological needs (such as autonomy, sense of competence, and sense of belonging). Red tape inhibits healthcare workers' motivation and creativity at work by limiting their autonomy and room for creativity. Lack of flexibility and autonomy can cause healthcare workers to feel a loss of control over their work, leading to decreased motivation and engagement.

In addition, red tape can lead to increased burnout tendencies among healthcare workers, a phenomenon that is particularly pronounced in the healthcare industry (DeHart-Davis & Pandey, 2005). Lengthy administrative procedures and compliance requirements cause healthcare workers to feel stressed out about completing their actual work and even begin to question their role and contribution in the organization. This sense of burnout exacerbates the negative feelings of healthcare workers at work, causing them to develop negative attitudes towards their work, which further affects their work engagement and professional behavior. Borst et al. (2020) found that red tape undermines the positive effect of work resources on individual attitudes, which in turn negatively affects employees' work performance. It is found that red tape leads to systemic rigidity and procrastination, which fails to enhance the motivation of civil servants to serve the public, and becomes a constraint to public service. Red tape has severely hindered change and innovation of the civil servants. In practical organizational management, red tape manifests itself in a variety of ways, which not only reduces productivity, but may also lead to

a decrease in employees' job satisfaction, which in turn affects their work performance (Tiggelaar et al., 2024). J. H. Zhang (2023) explored the adaptive performance of the medical staff in public hospitals and found that red tape negatively affects the work performance of the medical staff. The higher the level of red tape, the lower the work performance of employees.

On this basis, the following hypothesis is proposed.

H2: There is a significant negative correlation between red tape and work engagement among healthcare workers.

3.2.3 The mediating effect of work engagement

Work engagement is defined as a positive and fulfilling state of mind at work, characterized by energy, dedication, and concentration (Schaufeli et al., 2002). Since the Hawthorne experiment, it has been recognized that there is a clear correlation between employee work engagement and work performance. A high level of employee work engagement reflects a positive attitude towards work and a strong willingness of commitment, and it tends to result in relatively high work performance. Employees with high levels of work engagement tend to be more focused and diligent in accomplishing their work tasks. They have ample experience and physical energy to invest more time and effort in their work, which can help improve quality and efficiency of work, generate more work output and achieve desired goals. This positive work attitude and effort is often directly reflected in their work performance. Work engagement is a strong sense of responsibility for healthcare workers' own performance and a demonstrated willingness of commitment, and the physical, emotional, and psychological resources possessed by an individual are a necessary prerequisite for work engagement. Employees with high levels of work engagement perceive their work as meaningful and aligned with the organization's goals and values. They show commitment to the organization and are willing to contribute more to its success. This commitment to the organization is also recognized by supervisors and colleagues, resulting in higher evaluations.

It is worth noting that the driving factors of work engagement not only include individual psychological resources (such as occupational identity), but are also significantly influenced by characteristics of the organizational environment. According to the JD-R model, when negative factors in the organizational environment (such as perceived dirty work and institutional burdens) excessively deplete individual resources, the level of employees' work engagement will be directly weakened.

As a negative job demand, perceived dirty work leads to negative emotions, professional identity crisis, lack of social support, and limited psychological needs fulfillment among

healthcare workers, and these factors significantly reduce the work engagement among healthcare workers. Specifically speaking, when healthcare workers perceive that the work they are engaged in is stigmatized or undervalued, they tend to generate negative emotions such as shame, inferiority, and anxiety, which depletes their psychological resources and emotional energy and diminishes their work enthusiasm (Kan et al., 2024c; Mitake et al., 2019). Meanwhile, the professional identity crisis (Ashforth & Kreiner, 2014b) and lack of social support caused by social prejudice reduces healthcare workers' sense of self-worth and makes it difficult for them to obtain autonomy, control, and accomplishment from their work (Van Loon et al., 2016), which further inhibits their work engagement. As a result, perceived dirty work negatively affects work engagement of the healthcare workers through multiple mechanisms such as emotions, identity and psychological needs (Kan et al., 2024c). Moreover, a large number of studies have confirmed that work engagement has a significant positive effect on healthcare workers' performance (Schaufeli, 2003). A high level of work engagement implies that healthcare workers possess higher levels of concentration, stronger professional commitment and more positive work attitudes, which can effectively improve work efficiency and service quality, and thus achieve better work performance. Therefore, it can be hypothesized that perceived dirty work may indirectly affect healthcare workers' work performance by reducing their work engagement. In other words, work engagement may play a mediating role between perceived dirty work and work performance. Perceived dirty work first reduce the work engagement of healthcare workers, and then inhibit their work performance.

H3: Work engagement mediates the relationship between perceived dirty work and work performance, namely, perceived dirty work reduces work engagement among healthcare workers, which in turn weakens their work performance.

Similarly, as a typical institutional stressor, red tape continuously depletes healthcare workers' time and cognitive resources through complex administrative procedures, redundant paperwork, and inefficient management processes, making it difficult for them to devote their limited psychological energy to core clinical work (Kohnen et al., 2023b). This mechanism of resource depletion and the psychological deprivation effect of perceived dirty work constitute a dual-path influencing model of work engagement. At the organizational management level, red tape may exert an inhibiting effect on all three dimensions of work engagement. First, redundant administrative procedures continuously deplete healthcare workers' physical and emotional resources and diminish their work vitality. Second, excessively formalized management systems may weaken healthcare workers' perceived value of their work and reduce

their professional dedication (Borst, 2018; Kohnen et al., 2023a). Finally, frequent paperwork filling and meeting reports take up clinical work time and lead to fragmentation of concentration. In addition, when red tape leads to a continuous spillover of resources, healthcare workers may be forced to divert cognitive resources that should be used for clinical innovation to cope with administrative procedures, creating a "resource crowding-out effect" that ultimately leads to dual decrease of work engagement and work performance (B. C. Liu, 2021).

On this basis, the following hypothesis is proposed.

H4: Work engagement mediates the relationship between red tape and work performance, namely, red tape reduces work engagement among healthcare workers, which in turn weakens their work performance.

3.2.4 The moderating role of occupational safety in the relationship between perceived dirty work and work engagement

Perceived dirty work reflects healthcare workers' negative evaluations of their work in terms of social status, working conditions and work responsibilities. Such perceptions can lead to emotional instability, low self-esteem, and even resistance, which can significantly reduce work engagement. Perceived dirty work refers to the work burdens or stresses that mental healthcare workers must cope with, and prolonged exposure to such perceptions can deplete their physical and mental resources, which in turn affects their job performance and work performance (Kohnen et al., 2023a).

In the JD-R model, the interaction between job demands and job resources is critical to healthcare workers' attitudes and behaviors at work. Job demands (such as perceived dirty work) tend to increase employees' psychological burden, whereas job resources (such as occupational safety) can usually promote employees' work engagement and motivation. Therefore, occupational safety, as a kind of job resource, may play a moderating role, especially in high-stress, high-risk work environments, and healthcare workers with different levels of occupational safety may be affected to varying degrees when experiencing perceived dirty work. Occupational safety refers to the ability of workers to work in a safe and healthy environment in which their physical and mental health is not jeopardized by occupational hazards (Kohnen et al., 2023a). Occupational safety is not only about the physical and mental health of healthcare workers, but also directly affects their productivity and engagement. In an environment with adequate occupational safety, healthcare workers perceive less job threat and stress, and are able to focus more on the work itself, which indicates enhancement of work engagement, rather than on external evaluations or job status. According to the JD-R model, if the high job demands

(such as perceived dirty work) faced by employees cannot be supported by adequate resources, there may appear increased stress, which in turn can trigger job fatigue and burnout (Bakker & Demerouti, 2007). However, when healthcare workers perceive adequate job resources (such as occupational safety), these resources can help healthcare workers better cope with job demands, mitigate their negative effects, and enhance work engagement and job satisfaction.

When occupational safety is high, healthcare workers are like having a rich pool of resources. In this relatively safe and stable work environment, they have more optimistic job expectations (Lundberg, 2005) and believe that they can have continuous access to a safe occupational environment as well as good job security. This cognition makes them more sensitive to the negative effects of perceived dirty work. At this point, the emergence of perceived dirty work may weaken their work engagement more significantly, because their work is already in a more stable and positive state (Schaufeli & Bakker, 2010), and any negative appraisal or perception will cause more mood swings and reduced engagement. These negative factors act as a shock to the healthcare workers' resource pool, posing a threat of resource loss. From a psychological perspective, individuals tend to be more sensitive to losses than to gains. Therefore, the psychological impact of perceived dirty work on healthcare workers may be more significant when such perception is still encountered in environments with high occupational safety. Perceived dirty work often trigger negative emotional responses such as anxiety and frustration, which deplete healthcare workers' psychological resources. In this case, although the work environment is relatively safe, the healthcare workers are limited in the resources they can invest in their work due to the depletion of emotional and psychological resources. It means that they may spend more energy and resources on coping with inner turmoil and mood swings in their work rather than focusing on their work tasks, a behavioral adjustment that makes the negative effect of perceived dirty work on work engagement more significant.

In contrast, when occupational safety is low, mental healthcare workers are in a psychological state of chronic resource scarcity. They are constantly confronted with issues such as occupational safety challenges and unstable work environments, and their work engagement is inherently low. In this situation, the mental energy of healthcare workers is used more to cope with these uncertainties, and there is a corresponding decrease in sensitivity to the threat of resource loss posed by perceived dirty work. In other words, a low sense of occupational safety may lead to a low level of work engagement, so that even if there exists perceived dirty work, its negative impact may not be apparent, or may even be "ignored" or "adapted".

On this basis, the following hypothesis is proposed.

H5: Occupational safety moderates the relationship between perceived dirty work and work engagement, namely, in the case of high occupational safety, the negative effect of perceived dirty work on work engagement is stronger; conversely, the negative effect of perceived dirty work on work engagement is weaker.

3.2.5 The moderating role of organizational learning climate in the relationship between perceived dirty work and work engagement

Perceived dirty work usually exerts a significant negative impact on healthcare workers' work engagement, but this impact is not invariable. Different groups and individuals tend to moderate the relationship between perceived dirty work and work attitudes by adopting different coping strategies (Bosmans et al., 2016). In this context, organizational learning climate, as an intangible resource, can moderate the impact of perceived dirty work on work engagement to some extent. Organizational learning climate is defined as employees' shared perception of encouragement of knowledge sharing, learning of new knowledge, and improvement of self-efficacy and job performance within the organization. The presence of such a climate helps to mitigate the negative effects of perceived dirty work, thereby enhancing healthcare workers' work engagement.

According to the JD-R model, knowledge and competence are regarded as important resources of an organization, and organizational learning is one of the core ways to acquire these resources (X. J. Wei et al., 2023). In organizations with a strong learning climate, healthcare workers are more likely to take the initiative to learn, update their knowledge, and enhance their sense of self-efficacy as well as sense of competence and control over their work, and these psychological resources can effectively alleviate the pressure brought by the job demands, which can, in turn, increase work engagement. According to the social exchange theory, the supportive environment and learning climate of an organization can promote healthcare workers' self-growth and competence, further stimulate their sense of responsibility to the organization, and thus enhance work engagement (Blaique et al., 2022).

The central role of organizational learning climate lies in its positive moderation of the psychological needs and job resources of healthcare workers. First, a good organizational learning climate can enhance healthcare workers' sense of control over their work environment and improve their self-efficacy. When healthcare workers are able to improve their working conditions through personal efforts, they will feel more capable of coping with challenges even when faced with disgraceful working environments, thus maintaining positive attitudes and high work engagement. The JD-R model suggests that sense of control and self-efficacy are

core resources that influence individual work engagement, which allows the organizational learning climate to significantly mitigate the negative effects brought by perceived dirty work.

Second, the organizational learning climate can promote interaction and cooperation among healthcare workers and enhance their sense of social support. In an environment full of support and learning opportunities, healthcare workers can feel emotional support from their colleagues and the organization, which not only helps them to improve their personal abilities, but also promotes their professional identity. When healthcare workers feel that their work is meaningful and they are able to grow in their work, their job satisfaction will increase, which alleviates the negative emotions associated with perceived dirty work and enhances work engagement (Blaique et al., 2022). Research has also shown that there is a positive correlation between employee satisfaction and work engagement, and high satisfaction is effective in alleviating negative emotions and enhancing productivity (Kohnen et al., 2023a).

Finally, the organizational learning climate helps healthcare workers psychologically distance themselves from disgraceful working conditions by providing them with opportunities to achieve their self-goals and career development (Park & Rothwell, 2009). When healthcare workers are able to achieve personal growth and self-improvement in the organization, their intrinsic motivation will be stimulated, which further enhances their work engagement. Compared to the emotional distress that may be brought about by perceived dirty work, the learning climate can provide healthcare workers with more career development opportunities and room for self-actualization, which in turn reduces the negative impact of perceived dirty work. On this basis, the following hypothesis is proposed.

H6: Organizational learning climate moderates the relationship between perceived dirty work and work engagement, namely, in the case of high organizational learning climate, the negative effect of perceived dirty work on work engagement is weaker; conversely, the negative effect of perceived dirty work on work engagement is stronger.

3.2.6 The moderating role of job crafting in the relationship between red tape and work engagement

Within the framework of the JD-R model, red tape can be considered as a typical job demand, and it usually refers to excessive or complex rules, regulations, and procedures, which may impede work efficiency and increase the psychological burden on employees, thus affecting their attitudes and behaviors toward their jobs (J. Y. Guo & Chen, 2023). Job crafting is the behavior of an employee to proactively change his or her job tasks or working environment to better suit the job demands or increase job satisfaction. Job crafting includes both relationship

crafting and task crafting. Through relationship crafting, employees may seek more support and feedback, which helps them better cope with job demands and reduces the negative impact on work engagement. Through task crafting, employees may avoid certain tasks that are too difficult or energy-consuming, thereby reducing the negative impact of job demands.

According to the JD-R model, employees' work engagement will be significantly weakened in the absence of adequate resource support (such as organizational support and social support) when faced with demanding work environments such as red tape. However, job crafting, as a coping strategy, can be seen as a resource that helps employees to mitigate the negative effects of red tape by reducing unnecessary protocol interruptions, optimizing work processes, and enhancing work autonomy. Particularly for occupational groups with relatively harsh working conditions, such as healthcare workers in mental health centers, existing research suggests that job crafting is particularly important. It can help employees minimize stress while maximizing work resources, thereby increasing work engagement and improving work quality of the healthcare workers (Sheehan et al., 2023).

When faced with job demands brought by red tape, job crafting can act as a moderating variable to help employees adjust their own ways of working, thereby mitigating the negative impact of red tape on work engagement (J. Y. Guo et al., 2021). First, job crafting can increase employees' work autonomy, even in the case of severe red tape, employees can reduce unnecessary procedural interruptions by adjusting tasks or workflows (Huyghebaert-Zouaghi et al., 2020). This increased autonomy helps to alleviate the work stress caused by red tape, thus reducing its negative impact on work engagement (X. X. Li et al., 2024). According to the self-determination theory (Ryan & Deci, 2000), employees' work engagement and job satisfaction usually increase significantly when they feel a sense of autonomy and control.

Second, job crafting enables employees to find more efficient ways to accomplish work tasks and bypass some unnecessary red tape (Huyghebaert-Zouaghi et al., 2021). This not only improves productivity, but also increases employees' sense of control and fulfillment at work, which in turn increases work engagement. When employees are able to adapt and optimize their work processes to accommodate burdensome rules and regulations, their subjective perception of and engagement in their work will improve significantly. According to the JD-R model, increasing employees' resources at work (such as flexibility and sense of control) can effectively reduce the stress caused by job demands and increase work engagement.

Finally, relationship crafting can help employees mitigate the negative impact of red tape on work engagement through better interpersonal communication and organizational support. Employees may feel stressed and frustrated when dealing with red tape, and job crafting enables

employees to obtain more emotional support and work resources through enhanced interactions and feedback with coworkers and leaders, thus alleviating the internal friction in the workplace and enhancing work engagement (Harju et al., 2016). In addition, cognitive crafting also helps employees to adjust their perceptions of rules and regulations. By reassessing the meaning and role of rules and regulations, employees may view them in a more positive perspective, which in turn reduces negative emotions and maintains a relatively high level of work motivation (Kossek et al., 2023). It has been shown that job crafting is an effective strategy to help employees cope with job stress and intense job demands. For example, according to Rodell and Judge (2009), low employee job satisfaction often stems from a mismatch between personal abilities, needs, and values and the work situation in which they are located. Job crafting can be viewed as a behavioral manifestation of employees actively adjusting what and how they do their jobs to better fit their own attributes and expectations. By engaging in job crafting, employees are able to reduce the impact of obstructive demands and enhance challenging job elements, thereby responding more positively to possible disadvantages at work.

On this basis, the following hypothesis is proposed.

H7: Job crafting moderates the relationship between red tape and work engagement, namely, in the case of high job crafting, the negative effect of red tape on work engagement is weaker; conversely, the negative effect of red tape on work engagement is stronger.

Based on the above discussion of mediating and moderating effects, the indirect effect of perceived dirty work on work performance through work engagement may be moderated by occupational safety and organizational learning climate. When occupational safety is relatively high, the negative effect of healthcare workers' perceived dirty work on work engagement will be stronger. Organizational learning climate can further weaken the negative correlation between perceived dirty work and work engagement by providing knowledge-sharing and a sense of psychological security (Tasa et al., 2007) to help employees transform their negative occupational experiences into reflective practices (J. S. Yang & Chen, 2005). In addition, the indirect effect of red tape on work performance through work engagement may be moderated by job crafting. Job crafting can partially offset the institutional pressure of red tape through resource reallocation mechanisms (such as task optimization and cognitive restructuring) (Lyu et al., 2023). To be specific, when employees proactively adjust their work boundaries (such as reducing redundant paperwork processing time) or restructure the meaning of administrative processes (such as viewing compliance requirements as quality assurance rather than formalism), their work engagement can remain relatively stable in the context of high red tape,

thus maintaining the sustainability of work performance. Therefore, the integrative hypotheses of this research are proposed as follows.

H8: Occupational safety moderates the indirect effect of perceived dirty work on work performance through work engagement, namely, the indirect effect of perceived dirty work on work performance through work engagement is stronger in the case of high occupational safety.

H9: Organizational learning climate moderates the indirect effect of perceived dirty work on work performance through work engagement, namely, the indirect effect of perceived dirty work on work performance through work engagement is stronger in the case of low organizational learning climate.

H10: Job crafting moderates the indirect effect of red tape on work performance through work engagement, namely, the indirect effect of red tape on work performance through work engagement is stronger in the case of low job crafting.

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Chapter 4: Research Methods

Research methods can be classified into two main categories: qualitative research and quantitative research, each of which contains a variety of specific research methods. Each of the two approaches has its own unique strengths and limitations, so in order to address the research questions in a more comprehensive manner, researchers often integrate quantitative research and qualitative research. There are three main ways of integration. The first is to incorporate specific methods and techniques of qualitative research into quantitative research; the second is to utilize a specific approach of qualitative research to help the researcher interpret the statistical analysis results in quantitative research; and the third is the integration of qualitative and quantitative methods, which addresses the different aspects of the overall research question using qualitative and quantitative research respectively (Morgan, 2013).

The selection of research approaches and methods depends on the specific purpose of the study. This study is designed to explore the antecedent influencing factors and subsequent outcomes of work engagement of mental healthcare workers, so the survey research method is more appropriate. Survey research belongs to the category of quantitative research, and its core elements include sampling, questionnaire design, scale construction, statistical analysis, and correlation analysis. However, in the questionnaire design stage and interpretation of correlation, it is necessary to combine the actual experience and real ideas of the respondents as a support, which requires in-depth understanding of the actual situation through in-depth interviews to ensure the comprehensiveness and accuracy of the study.

On this basis, we adopt mixed research methods including in-depth interview method and questionnaire survey method in this study, and conduct data processing and analysis based on SPSS26.0.

4.1 In-depth interview method

In view of the particularity of the work of medical staff in the Mental Health Center in Pudong New Area, Shanghai, this study intends to conduct in-depth personal interviews with on-the-job medical staff and leaders in the hospital, and interpret the interview texts through a series of qualitative text analysis, so as to provide necessary information for further understanding of the relationship among quantitative research results, explore the underlying causes and

mechanisms of relevant influencing factors, predict future scenarios, and propose practical countermeasures.

4.1.1 Overview of the interview method

As one of the important methods in qualitative research, the advantage of the in-depth interview method lies in its ability to obtain extensive and detailed qualitative data through dialog, which is especially suitable for exploring complex social phenomena and individual experiences. Despite the complexity of its data analysis process, through systematic coding and theme extraction methods, the researchers are able to reveal deep-seated socio-cultural meanings. Therefore, the in-depth interview method is of irreplaceable value in studies that require an in-depth understanding of the intrinsic motivations and backgrounds of the research subjects. Specifically speaking, we adopt the semi-structured interview method in this study. Semi-structured interview, also known as in-depth interview or free interview, is a different type of interview from structured interview. It does not rely on a preset standardized questionnaire or a fixed process, but is based on a relatively clear theme and general scope, with the interviewer and the respondent developing a more open and flexible dialogue around the theme. This form of interview allows for more free play and is conducive to digging deeper into the real thoughts and specific experiences of the interviewee (X. T. Feng, 2009). This study adopts the semi-structured interview method. With the research topic of work engagement of mental healthcare workers, we carry out in-depth face-to-face communication with the interviewees. On the basis of literature study, we further focus on the research topic from the interviewees' perspectives, enrich the research contents, and clarify the relevant dimensions and their intrinsic relationships.

4.1.2 Interview implementation process

Based on the methodology of the semi-structured interview, the interview implementation process can be divided into the following steps.

1. Interview outline development

Focusing on the research topic and based on the literature review, the interview questions are designed based on the dimensions of variables. These questions focus on the interviewer's understanding and definition of the variables, and involve the following three aspects: the dimensions that the variables should contain, the relationship between the variables, and the intrinsic connection between the dimensions.

2. Interviewee identification

This study uses a purposive sampling method. During the pre-study phase, a total of 17 on-the-job medical and administrative staff from the Shanghai Pudong New Area Mental Health Center have been selected for in-depth interviews in the form of Tencent Meeting online on February 2 and February 3, 2023. To ensure the comprehensiveness and accuracy of the interview results, the interview respondents of this study cover six categories of staff: hospital leaders, department leaders, ward directors, attending doctors, medical technicians, and nursing staff. During the interview process, the saturation method is used to determine the final number of interviewees (Charmaz, 2008). By continuously analyzing the interview data, theoretical saturation is reached when additional interviews no longer provide new information or new themes, indicating that the sample size is sufficient to support the findings. The finalized 17 interviewees can adequately reflect the views of respondents in different positions and levels, which ensures the depth and breadth of the study.

3. Implementation of in-depth interviews

In this study, we conduct in-depth interviews through Tencent Meeting. In order to avoid disturbing the interviewees and make them receive interviews in a more relaxed and natural atmosphere, the researchers chose the conference room of the interviewees' workplaces as the main interview location. Before the start of each formal interview, the interviewer fully explains the purpose and significance of the interview to the interviewee to ensure his/her informed and voluntary participation. After obtaining the consent of the interviewee and ensuring the privacy of the interview content, the interview data are collected. The interview lasts for 30 to 40 minutes on average, and audio recording is conducted with the consent of the interviewees, while other participating researchers in the conference room are responsible for recording the interviews.

4. Processing of interview results

After the interviews, we organize the interview data and conduct qualitative analysis of the interview results. First, interview results are organized. The audio and video recordings of the interviews are organized, and MS Word documents are formed through the transcription system of iFLYTEK and the researcher's further organization and proofreading of the transcribed information. The basic information of the interviewees is recorded and analyzed through MS Excel. The final number of valid interviews in this qualitative interview is 17, covering all levels of leadership and staff of the Pudong New Area Mental Health Center, and the textual materials include more than 83,000 words.

It is followed by the phase of qualitative analysis of the interview data. Specifically, the analysis is carried out by four researchers with backgrounds in human resource management.

Based on a thorough reading of the transcribed text of the interviews, the researchers conceptualize and distill the key concepts in context and screen out the direct or indirect expressions of the interviewees according to the research objectives. On the basis of line-by-line coding, additional coding is also used on a sentence-by-sentence or paragraph-by-paragraph basis when necessary to enhance the systematicity and accuracy of the analysis of the interview materials. The four researchers are divided into two groups, each responsible for the analysis of different interviewees' texts, and each researcher independently handles the initial coding and distillation process of his/her assigned text. They extract the themes for their respective interviewees' texts in a context of non-interference with each other until their respective textual analysis models are saturated. Eventually, the themes extracted by the researchers are summarized and analyzed, on the basis of which reading, confirmation and verification are carried out to ensure the reliability and validity of the qualitative data analysis.

4.1.3 Interview contents

We develop an interview outline based on relevant literature (H. T. Song et al., 2022). The outline consists of thirteen questions, except for the first question which is about the basic information of the interviewee (such as job position and job content), the other twelve questions are semi-open-ended questions, which are centered on the contents of "special characteristics of the work of psychiatrists", "factors influencing the internal motivation of psychiatric healthcare workers", and "factors influencing the work engagement of psychiatric healthcare workers". The outline is well organized and comprehensive.

4.2 Questionnaire survey method

As one of the most important research methods in the academic circle, the questionnaire survey method is simple to operate, saves time, funds, and manpower, and has high efficiency. Moreover, its survey results are easy to quantify, and facilitate statistical processing and analysis. Therefore, this study adopts the questionnaire survey method for data collection and analysis.

4.2.1 Questionnaire design methodology

Questionnaire design is a core step of questionnaire survey that involves the definition and measurement of variables, also known as the process of conceptual operationalization. This process involves detailed study and operationalization of abstract concepts, and ultimately the

interpretation of relevant concepts through empirical observations (X. T. Feng, 2009). In conceptual operationalization, scale is the most commonly used method, and the design of dimensions and indicators is the foundation to ensure measurement accuracy of the scale. Therefore, the following measures are taken in this study to ensure the accuracy of measurement.

This study adopts the Likert 7-point scale. During the design process, the individual conditions of the respondents are fully considered. For example, in the process of scale revision, the interpretation of the scoring rules of the Likert scale has been modified for several times. In the first draft, only the meanings of the scores of 1 and 7 are explained, but we explain the meanings of scores from 1 to 7 one by one later based on the feedback given in the follow-up interview. Before the pre-test, considering the length of the questionnaire and the comprehensibility of the explanations, we finally decide to explain only the meanings of 1, 4, and 7, with 1 standing for completely disagree, 4 standing for neutral, and 7 standing for completely agree.

In addition, we have fully considered various factors that might hinder the questionnaire survey, subjectively controlled the number of questions, and placed privacy-related questions at the end of the questionnaire, so as to avoid boredom among the respondents.

4.3 Questionnaire measures

4.3.1 Measure of work engagement

We refer to the work engagement scale developed by Schaufeli and Bakker (2003) in this study, which contains three dimensions: vigor, dedication and absorption, with a total of 17 items. We translate and appropriately modify the items according to the working context of the healthcare workers, and the items are shown as per Table 4.1.

Table 4.1 Items for work engagement

Dimension	Item	题项
Vigor 活力	1. At my work, I feel bursting with energy	1.在我的工作中，我感到精力充沛
	2. At my work, I feel strong and vigorous.	2.在我的工作中，我感到强壮和有活力
	3. When I get up in the morning, I feel like going to work	3.当我早上起床时，我就想去工作
	4. I can continue working for very long periods at a time	4.我可以一次性连续工作很长一段时间
	5. At my job, I am very resilient, mentally	5.在我的工作中，我在精神上很有韧性
	6. At my work I always persevere,	6.在我的工作中，即使事情进展不顺

Dimension	Item	题项
	even when things do not go well	利我总是能坚持下去。
Dedication 奉献	7. I find the work that I do full of meaning and purpose	7.我认为我所做的工作充满了意义
	8. I am enthusiastic about my job	8.我对我的工作充满热情
	9. My job inspires me	9.我的工作能够激励我
	10. I am proud on the work that I do	10.我为我所做的工作感到自豪
	11. To me, my job is challenging	11.对我来说，我的工作很有挑战性
Absorption 专注	12. Time flies when I'm working	12.当我在工作时，时间过得飞快
	13. When I am working, I forget everything else around me	13.当我在工作的时候，我可以忘记周围的一切
	14. I feel happy when I am working intensely	14.当我认真工作时，我感到很快乐
	15. I am immersed in my work	15.我沉浸在我的工作之中
	16. I get carried away when I'm working	16.当我工作的时候，我兴奋得忘乎所以
	17. It is difficult to detach myself from my job	17.我很难从工作中脱离出来

4.3.2 Measure of work performance

In this study, work performance is selected as a measurement dimension of work performance and it is deemed as an outcome variable in the research model. In this study, work performance is measured with reference to the scale developed by Guillén and Kunze (2019). Completed by the healthcare workers' immediate supervisors, the scale focuses on the extent to which each healthcare worker has accomplished his or her job goals and responsibilities during the previous operating period, as demonstrated by selecting the appropriate response on the following scale: a) To be improved, b) Effective, c) Very Effective, and d) Excellent.

4.3.3 Measure of perceived dirty work

The measurement of perceived dirty work in this study refers to the Intensity of Social Work Dirtiness Scale developed by S. Wen (2016), and we make localized revisions based on the characteristics of mental health care situations. The scale consists of five question items focusing on the social cognitive dimensions of occupational stigmatization, covering public avoidance, occupational devaluation, and perception of social justice. Specific question items include: (1) "Most people do not want to have anything to do with the job I do"; (2) "Few people would be proud to have a job like mine"; (3) "Most people would resent or loathe the profession I work in"; (4) 'People who work in the same profession as me have been demeaned'; and (5) "People may have less respect for me because of my profession." A 7-point Likert scale is used (1 = "strongly disagree", 7 = "strongly agree"), with higher scores indicating stronger perceived

dirty work. The Cronbach's α coefficient of the original scale is 0.89, and the confirmatory factor analysis shows good construct validity (CFI=0.93, RMSEA=0.06), making it suitable for measuring stigmatizing experiences in high-pressure occupational groups (S. Wen, 2016). The scale has been semantically adapted through pre-surveys to ensure that it fits the work context of mental healthcare workers.

4.3.4 Measure of red tape

The scale developed by N. M. van Loon et al. (2016) is adopted to measure red tape. The scale examines employees' perceptions of organizational rules from two dimensions: lack of functionality and compliance burden. Lack of functionality reflects the lack of practical utility of rules that employees perceive to be mandatory in their work activities, including "do the rules help achieve the work goals", and "do the rules help the employees do their jobs better" (e.g., These rules have a clear function in my work activities). Compliance burden measures the negative impact brought by rule enforcement, such as whether the rules lead to additional time costs, work stress, and frustration (e.g., "These rules cause a lot of delays"). In this study, the expression of scale items is appropriately adjusted according to the specific work situation of healthcare workers to ensure the accuracy and applicability of the measurement. The items are measured on a 7-point Likert scale, with 1 representing "strongly disagree" and 7 representing "strongly agree". In order to minimize measurement error, the items are randomized when presented in the questionnaire.

4.3.5 Measure of moderators

As for the measurement of occupational safety, we refer to the occupational health and safety scale developed by Ahmed (2023) and select three of the items that are consistent with the working situation of the psychiatric healthcare workers. A 7-point Likert scale (1 = "strongly disagree", 7 = "strongly agree") is adopted and the working environment is rated by the healthcare workers. In this study, we adopt a reverse coding of the occupational safety question items in the analysis. In other words, the higher the occupational safety scores, the higher the perceived occupational safety among healthcare workers.

Organizational learning climate is considered as one of the moderators to explore its impact on the work engagement of mental healthcare workers, and it is measured using the Learning Climate Scale developed by Nikolova (2014). The scale consists of three dimensions: facilitation learning climate, appreciation learning climate, and error avoidance learning climate.

The validation results of the scale show that the scale has good reliability (Nikolova et al., 2014) and is applicable to a wide range of organizational settings. The scale consists of 9 question items, which are rated by the interviewees according to their feelings in the organization. A 7-point Likert scale (1 = “strongly disagree”, 7 = “strongly agree”) is adopted, with higher scores indicating stronger organizational learning climate.

Regarding the measurement of job crafting, we adopt the Job Crafting Questionnaire (JCQ) developed by Slemp and Vella-Brodrick (2013). The scale consists of three dimensions: task crafting, cognitive crafting, and relational crafting. It contains a total of 15 question items on a 7-point Likert scale (1 = “strongly disagree”, 7= “strongly agree”).

4.4 Data collection and analysis steps

After pre-test, the validity of the questionnaire in measuring the research topic can be identified. On this basis, this section explains the sample selection, questionnaire distribution and collection steps and data analysis steps.

4.4.1 Sample selection

The respondents of this survey are in-service healthcare workers at three mental health centers in Shanghai, and include doctors, nurses, public health staff, administrators, and medical technicians. Stratified sampling was conducted in August 2023, November 2023, and February 2024 at Shanghai Pudong New Area Mental Health Center, Shanghai Pudong New Area Nanhui Mental Health Center, and Shanghai Huangpu District Mental Health Center, respectively, targeting different departments. The specific samples are the in-service healthcare workers from the Medical Department, Nursing Department, Outpatient Clinic Office, Public Mental Health Department, Laboratory, Imaging Department, Rehabilitation Department, and inpatient wards of each mental health center.

4.4.2 Questionnaire distribution and collection steps

The questionnaire survey is conducted with the assistance of Shanghai Pudong New Area Mental Health Center, Shanghai Pudong New Area Nanhui Mental Health Center, and Shanghai Huangpu District Mental Health Center. It is distributed in the form of printed questionnaires collected by the submission of the respondents themselves. The questionnaire is designed by the researchers based on the results of previous studies. In order to avoid common variance, we

distribute the questionnaires in three time points. The first questionnaire includes information of healthcare workers' perceived dirty work, red tape, work engagement, occupational safety, job crafting, organizational learning climate, and demographic information. The second questionnaire measures work engagement of the healthcare workers. The third questionnaire measures work performance of the healthcare workers, which is evaluated by their immediate superiors. We have distributed and collected 503, 500, and 498 questionnaires respectively in three surveys, obtaining 466, 461, and 465 pieces of valid data respectively. Since it is a time-varying data study, subjects are prone to a large number of missing values in a particular sampling process. Excluding the questionnaires with serious missing data and obviously poor data quality in a particular survey, 386 sets of questionnaires with valid superior-subordinate matches in all the three surveys are finally obtained, with a valid response rate of 77.2%.

4.4.3 Quality control

In order to control the survey errors as much as possible and improve the objectivity of the research conclusions, we practice all-round quality control in all stages of the questionnaire survey.

(1) Before the formal survey, the research group conducted a pre-survey of the relevant content on some healthcare workers in the Shanghai Pudong New Area Mental Health Center to understand whether the questionnaire had ambiguities and wrong expressions, which would help further improve and revise the questionnaire. Before the questionnaire survey was formally conducted, centralized training was first provided to the selected liaison personnel to clarify the objectives and process of the survey, standardize the survey methodology, and provide detailed instructions on the precautions to be taken in filling out the questionnaire.

(2) During the formal survey stage, the liaison personnel assisted in arranging specific survey times and locations to ensure that respondents completed the questionnaires within a uniform time period, and specialized persons were designated for on-site supervision. In order to ensure data quality, the investigators coordinated on-site to ensure that each respondent filled out only one questionnaire at a time, and eliminated substitute filling or duplicate filling. There is only one correct answer for the multiple-choice items, questionnaires in which more than one answer is selected or no answer is selected are considered invalid. For questionnaires submitted, all the question items should be filled out to avoid omissions.

(3) In the stage of questionnaire recovery and organization, after all the questionnaires were collected, one or two researchers reviewed the quality one by one. If contradictory answers, high repetition rate of options and other anomalies were found, they would be regarded as

invalid questionnaires and would be eliminated. The qualified questionnaires were numbered and processed in order to ensure the authenticity and objectivity of the questionnaire data to the greatest extent possible.

4.4.4 Data analysis steps

After completing the data collection, this study processed and analyzed the obtained data with the help of SPSS 26.0, and the specific statistical methods and steps used are as follows.

(1) Reliability and validity analysis: The content validity of the questionnaire is assessed by calculating the correlation coefficients between the scores of each dimension and the overall score; its construct validity is tested with the help of exploratory factor analysis and cross-sample confirmatory factor analysis. Internal consistency reliability is measured by Cronbach's alpha coefficient; after fitting the confirmatory factor analysis model, item reliability is further assessed by multiple correlation squared values and tested for consistency of factor loadings across samples.

(2) Descriptive analysis: means, standard deviations, and composition ratios are used to describe subjects' concentration trend and dispersion degree on each variable dimension of work engagement, career calling, career development, psychological empowerment, and ego depletion, and potential problems are identified based on the level of their means and distributional characteristics.

(3) Correlation analysis: methods such as Pearson correlation analysis are used to explore the correlation between variables and their direction and strength.

(4) Multivariate analysis: based on the basic principle of path analysis, mixed linear model, general linear regression model, and unconditional Logistic stepwise regression are used to build models and test the paths of the independent variables, the interaction terms, and the mediating variables on work engagement under the condition of controlling for confounding variables.

Chapter 5: Results

5.1 Qualitative results

The interview provides a better understanding of the definition of the research topic, the dimensions of the variables, and the relationships between the dimensions, and it also serves as an important reference for the design of the questionnaire. The coding of the themes for qualitative analysis is shown as per Table 5.1.

Table 5.1 Qualitative analysis coding

Themes	Categories	Frequency	Sub-Categories	Frequency
Special characteristics of mental healthcare	Differences in work content	9	Patient management (closed system)	3
			Therapeutic interaction (Communication barriers)	4
			Environmental adaptation (Protective space)	2
	Requirements for professional competence	6	Psychological capital and communication skills	4
			Clinical experience and professional competence	2
Professional identity	Perceived dirty work	7	Social discrimination and stigma of illness	4
			Occupational shame	3
	Insufficient positive feedback	5	Difficulty in quantifying therapeutic effects	3
			High proportion of long-term inpatients	2
Occupational stress	Communication pressure	7	Communication with patients (Hostile emotions, delusional symptoms)	4
			Communication with family members (Low status, unreasonable demands)	3
	Occupational safety	8	Tendency to violence and verbal insults	3
			Requirements for safety protection	2
	Research pressure	4	Mandatory requirements (Linked to professional title promotion)	3
			Insufficient research ability	2
			Difficulties in project application and implementation	2

Themes	Categories	Frequency	Sub-Categories	Frequency
Intrinsic motivation	Red Tape	4	Non-therapeutic work	4
	Economic aspect	5	Remuneration and performance system	5
	Organizational learning climate	5	Role model and mutual aid group	5
	Individual factors	3	Sense of self-worth and work-life balance	3
Work engagement	Differences at the individual level	5	Position, age, personality, educational background	5
	Problems at the management level	3	Insufficient authorization and lack of empathy in the system	3
	Social environment Factors	2	Slow development of the discipline and insufficient policy preference	2

1. Special characteristics of mental healthcare

The questions are designed to understand the differences in the work of healthcare workers in the mental healthcare organizations and those in general hospitals. Overall, the interviewees describe special characteristics of mental healthcare from two perspectives: job characteristics and job demands.

The first perspective involves differences in the actual content of work. The work content of healthcare workers in mental health centers has significant professional specificity, which is reflected in multiple dimensions such as patient management, therapeutic interaction, and environmental adaptation. It is found that mental health services present multidimensional particularity. In the management dimension, the closed system requires healthcare workers to play the dual roles of healer and administrator. In the interaction dimension, the symptom-driven communication barriers give rise to a unique model of physician-patient relationship. In the environment dimension, the design of protective space constitutes an important feature of the occupational ecology.

Table 5.2 Interviewee information

Name of interviewee	Position	Date of interview	Duration of interview
Yang	Section chief	2023.2.2	13:30-14:00
Zhang	Director	2023.2.2	14:10-14:40
Yang	Section chief	2023.2.2	14:50-15:20
Shi	Director	2023.2.2	15:30-16:00
Zhang	Doctor	2023.2.2	16:10-16:40
Chen	Director	2023.2.2	13:30-14:00
Pei	Section chief	2023.2.2	14:10-14:40
Yuan	Director	2023.2.2	14:50-15:20
Shi	Doctor	2023.2.2	15:30-16:00
Ge	Director	2023.2.2	16:10-16:40
Zhu	Doctor	2023.2.2	19:00-19:30
Teng	Nurse	2023.2.2	19:40-20:10
Sun	Director	2023.2.3	8:30-9:00

Name of interviewee	Position	Date of interview	Duration of interview
Qin	Section chief	2023.2.3	9:10-9:40
Wang	Section chief	2023.2.3	9:50-10:20
Wang	Section chief	2023.2.3	10:30-11:00
Gu	Nurse	2023.2.3	20:00-20:30

The viewpoints of the interviewees are as follows.

"First of all, it is mainly the difference in the overall treatment population that we are dealing with. In the face of this type of patients, your need to take a completely different way of communication compared with normal patients, because their thinking and behavior may affect the overall level of communication and the outcome. In other hospitals, the main focus may be on treating the patients, whereas here, apart from treating the patients, we have to focus more on their overall situation, including the communication with the patients" (Director Y)

"Because they are mental patients, our hospital adopts the mode of closed-off management, whereas the management of general hospitals is all open" (Doctor Z)

"Another unwritten rule is that the windows in our offices are exceptionally small and it is not possible to have a very spacious environment compared with large general hospitals. Considering the specificity of our psychiatric department, there are differences in the environment in which we work" (Director G)

The second perspective involves differences in professional competence requirements. It is found that psychiatric professional competence presents significant heterogeneity. As for the structure of competence, a composite model has been formed with psychological capital as the foundation, clinical experience as the core, psychological skills as the extension, and professional ethics as the guarantee. As for the development of competence, it reflects a paradigm shift from technical competence to situational competence. The viewpoints of the interviewees are as follows.

"The physical exertion for us is relatively low, but the demand on our psychological ability or psychotherapy or counselling ability is relatively high" (Director C)

"For us, there are few objective biological indicators, and it depends more on the clinician's professional ability and treatment experience" (Doctor X)

"I believe that professional management knowledge is also important…The ability to deal with complex problems is very important" (Director S)

"I think psychiatry gives me a great deal of particularity in the sense that I feel the need to have ethical self-cultivation, which requires being careful with one's conduct when being alone (Doctor G)

2. Professional identity

Influenced by the social environment, the healthcare workers in the mental healthcare

institutions also have certain particularity in terms of professional identity. In general, the interviewees share the view that compared to doctors in other hospitals, their sense of professional identity is relatively low, but it has already been improved recently.

"The overall sense of fulfillment and happiness for us is actually not as high as that of other doctors…The general public is still more or less prejudiced against psychiatric medicine at present. With the overall social progress and the state's promotion of social mental health, people's understanding and recognition is actually improving. Currently, the recognition rate is around 80%, which is definitely higher than before" (Director Y)

(1) Perceived dirty work

Healthcare workers in mental health organizations may face a range of disgraceful perceptions such as job stigma and occupational shame at work, which affects their work engagement. Despite the decreasing social discrimination against mental illnesses in recent years and the gradual improvement of the status of psychiatry, mental healthcare workers still face multiple pressures from the society, patients and their families, and this perception is further reinforced especially by the differentiated treatment between patients with severe and mild mental illnesses. The external environment has exerted a significant impact on the professional identity and work status of the mental healthcare workers. They need to balance the acceptance of patients, patient families and society in their service, thus increasing their work complexity and psychological burden.

"After all, the general public still has a certain discrimination against this disease. The patients themselves also have a certain sense of shame. I think the self-identification may be a bit worse than doctors in general hospitals" (Doctor X)

"Now the situation may be a little bit better, as the government is paying more attention to psychiatry. When I first joined the profession, there was indeed this kind of stigmatizing discrimination, but over the years I feel that it is no big deal" (Director S)

"Social discrimination against mental illnesses has actually gotten better in recent years, but there is still a distinction between severe and mild mental illnesses… Whether it is social perception or personal stigma, it affects the status of the medical staff. We should try to make the patients accept the disease, the family accept the disease and in the end the society accept the disease" (Section chief Y)

"In recent years, the situation has been much better because the status of psychiatry has been improving' (Section chief P)

(2) Positive feedback

In addition to perceived dirty work, healthcare workers in mental healthcare organizations

also face the pressure of insufficient positive feedback on their work, leading to a sense of underachievement. The interviewees are mainly concerned with difficulties in quantifying their work. Due to the long treatment cycle of psychiatric diseases, the difficulty of quantifying treatment effects, and the fact that many patients are hospitalized for long periods of time or even cannot be discharged from the hospital, it is difficult for mental healthcare workers to gain a sense of accomplishment through treatment results. In addition, compared with healthcare workers in general hospitals, mental healthcare workers lack visual measurement standards for their work results, as there are few cases of successful treatment. The work environment with no positive feedback for a long term has weakened their sense of occupational satisfaction and motivation, which in turn affects their overall work enthusiasm and professional identity.

"It is difficult to quantify our work. We know what we have done today, but it is difficult to measure the work in a quantity… We cannot promise the patients that they can be discharged. The biggest sense of fulfillment of our job is to witness the patients to be discharged, but the patients are seldom discharged. That is the embarrassing part" (Nurse T)

"Compared with other departments, mental healthcare workers basically seldom see a few patients treated in their lifetime. We rarely have the sense of achievement of curing a patient, which is different from the situation in general hospitals" (Director S)

"There are more than 800 beds in our hospital and more than 500 patients are never discharged" (Section chief Y)

(3) Career development

Healthcare workers in the mental health institutions may face more obstacles in their career development compared to those in general hospitals, which affects their professional identity. Interviewees talk about the reasons for limited career development from two perspectives.

The first perspective involves the limitations of career attributes.

"Because of the particularity of our job, if you work for five or six years, you will realize that you may have no choice but to be psychiatrists, and there are relatively few possibilities to change a job or change a hospital"

The second perspective involves the limitations of professional advancement.

"The knowledge capacity of psychiatrists, and the body of knowledge and the updating of knowledge of healthcare workers are relatively slow and outdated" (Director C)

3. Occupational stress

The purpose of this question is to understand the stress and difficulties faced by the interviewees at work. In general, the interviewees share similar views and understanding of the occupational stress they are subjected to, which mainly involves views from multiple

perspectives such as communication stress, occupational safety, scientific research pressure, and red tape.

(1) Communication stress

Due to the different groups of patients, the physician-patient relationship in mental health institutions is quite different from that in general hospitals, which may cause psychological stress in the daily work of the healthcare workers. Interviewees talk about the causes of psychological stress from two perspectives.

The first perspective involves stress on communication with the patients themselves. Interview results show that healthcare workers in mental health centers have great psychological pressure when communicating with patients, especially when young healthcare workers face patients alone. Since patients with mental illnesses are often accompanied by personality changes, delusional symptoms, or communication disorders, mental healthcare workers need to cope with patients' hostility, communication difficulties, and potential risks of conflict. This working environment puts higher demands on their psychological tolerance and communication skills. Long-term exposure to this high-pressure communication condition not only increases the psychological burden of the healthcare workers, but also affects their work status and career stability.

"The personality of these patients has been changed, so they may have an impact on our doctors and nurses…In particular, the young healthcare works, especially when they are alone with the patients, may have high psychological pressure" (Section chief P)

"A patient with delusion may just be inexplicably hostile to some of the medical staff" (Doctor G)

"There are a lot of elderly patients nowadays, and many of them have communication problems" (Section chief W)

The second perspective involves communication pressure in the physician-patient relationship. Interview results show that healthcare workers in mental health centers also endure great psychological pressure when communicating with patients' families. Compared with healthcare workers in general hospitals, the status of mental healthcare workers is relatively low, and family members tend to be more aggressive and even make unreasonable demands, forcing the healthcare workers to constantly make compromises.

"In general hospitals, the status of doctors may be a little bit higher than the patients… In psychiatry, the relationship between the family members and the doctors seems to be a bit opposite" (Doctor Z).

"Sometimes the family members may make unreasonable demands, so we have to keep

breaking our limits in order to calm them down" (Nurse T)

"The proportion of family members of our patients with character or personality defects is greater than that of normal patients" (Section chief P)

(2) Occupational safety

Due to the occupational particularity, healthcare workers in mental healthcare institutions are exposed to high occupational risks that bring about occupational stress. Interview results show that as patients with mental illnesses are often accompanied by impulsive behavior, violent tendencies, or verbal insults, mental healthcare workers are vulnerable to physical or verbal injuries at work, and the threat to their safety is more prominent especially when they are dealing with mentally manic patients. This particular working environment requires healthcare workers to pay constant attention to the safety of patients and themselves while treating illnesses. The dual pressure not only increases the work complexity, but also poses a potential threat to the mental and physical health of mental healthcare workers. With the increasing number of patients with mental illness, occupational safety issues may be further exacerbated, and will become an important factor affecting the job stability and work engagement of the healthcare workers.

"The risk of some impulsive behaviors in our hospital is higher and the chances of our staff getting hurt are a bit higher" (Director Y)

"Apart from treating illnesses, one of the things we should always keep in mind is safety, both patient safety and staff safety" (Doctor Z)

"Many patients may have some physical contact, and some may have violent tendencies… There may also be some verbal insults from the patients, especially those who are manic. Personally, I feel that the number of patients is increasing, and the proportion is also increasing" (Section chief W)

(3) Scientific research pressure

The interviewees are under common scientific research pressure apart from their daily work. The interviewees talk about their scientific research pressure from three perspectives.

The first perspective involves the mandatory nature of scientific research. The Interview results show that the mandatory requirement of scientific research tasks for healthcare workers in mental health centers has a significant impact on their career development. The scientific research progress is directly linked to professional title promotion, and becomes an important indicator to evaluate the performance of healthcare workers. As a result, the healthcare workers have to invest a lot of energy in scientific research activities in addition to completing their daily diagnostic and treatment work. This mandatory requirement has increased the workload

and psychological pressure of the healthcare workers, especially the young physicians.

"If you don't make progress in scientific research, it may have an impact on the promotion of your professional title. It's not just a matter of doing a good job in medical treatment. That is also one of the things that bothers us a lot, especially for the young doctors, and they suffer from more pressure" (Director Y)

"It's actually a bit coercive, so there's some resentment" (Doctor Z)

The second perspective involves the lack of scientific research capability of the medical personnel. Interview results show that healthcare workers in mental health centers generally face the problem of insufficient research capability. Physicians who have been engaged in clinical work for a long time but lack research experience feel particularly helpless when writing bids and conducting research activities. The insufficient research capability not only limits their career development, but also aggravates research pressure.

"Many doctors have been working for many years, and they have not conducted research for a long time. If you ask him to write bids, it just feels like ridiculous to him, because he has lost the ability to do that already" (Doctor Z)

"But on my side, I have limited capacity, and this is something that needs to be addressed urgently. At present, in fact, the hospital has also come up with some solutions, such as hiring a lot of experts. It is also important to find out how to allocate the experts to the various departments" (Director Y)

The third perspective involves the difficulties in the practical operation of scientific research. Interview results show that healthcare workers in mental health centers face multiple challenges in their research activities, such as fierce competition in project application and difficult approval. The uncertainty and high demands of the research process are beyond the current capabilities of some healthcare workers, which not only increases their research pressure, but also negatively affects their career development and work enthusiasm.

"When you apply for a research project, the first thing is that it is a challenging task. The competition is fierce nowadays, and it is difficult to successfully obtain the project. The second difficulty lies in the implementation of the research project, as you may encounter all kinds of problems, such as ethical aspects, and there will be difficulty in finishing the project" (Doctor Z)

(4) Red tape

In addition to the scientific research pressure, all the interviewees report to suffer from red tape at work, and they are mainly concerned with the pressures associated with non-therapeutic work. Interview results show that healthcare workers in mental health centers have to cope with

the red tape of a large number of non-therapeutic tasks on top of the scientific research pressure, which further aggravates their workload. In addition to their daily ward treatment tasks, healthcare workers also need to participate in outdoor promotion activities and medical paperwork writing. These additional tasks take up a great deal of time and energy, making it difficult for them to focus on their core medical and research activities.

"In the past, for example, if you work in the wards, you simply need to treat the patients. Now you have to do a lot of other things, such as outdoor promotion campaigns, but actually we are more dependent on the doctors and nurses in the wards" (Director Y)

"Occasionally some doctors spend a lot of time on non-therapeutic work, which is necessary from my personal point of view, but it may be possible to make some adjustments to the time spent on, for example, the writing of medical documents" (Director C).

4. Internal drive

The purpose of this question is to explore the internal drive of mental healthcare workers and the influencing factors that stimulate and diminish internal drive. The interviewees present three perspectives on the factors influencing internal drive.

The first perspective involves the economic dimension of remuneration packages and performance systems. Interview results show that despite year-on-year adjustments in performance allocation, there is little sense of gain in terms of individual income growth. In particular, due to the low income, the community mental health workers tend to have a high rate of turnover and insufficient work continuity. The current performance allocation fails to reflect the principle of more pay for more work, and lacks substantial rewards for front-line medical staff, leading to dissatisfaction among healthcare workers with the mismatch between investment and return. In addition, the transparency and fairness of performance allocation is insufficient, with no reasonable distinctions based on differences in workload and performance, which has weakened the internal drive and motivation of healthcare workers. Such imperfections in the remuneration and performance system may further affect the career stability and work engagement of healthcare workers.

"If you can get appropriate remuneration for your efforts, I think the engagement will be increasingly higher. In addition, your remuneration should be proportional to your efforts. It should be stipulated in detail, whether in the form of a system or a norm, so that we can have a clear goal" (Nurse T)

"The sense of gain brought by income growth is not strong. Now we adopt the performance allocation of public institutions. Although the performance coefficient and performance increment are rising every year, the actual effect on the individuals is not obvious…Mental

health prevention in the community level has low threshold and poor income, so mental healthcare workers have high turnover intention, and the work of a continuity is relatively low" (Section chief Y)

"It feels like we have spent so much time and energy, but we do not see a significant increase of our income…The incentive performance program has nothing to do with more pay for more work… There is no mention of any substantial rewards for the front-line medical staff like us. (Section chief W)

"If the leader makes a comment like that to him/her and there is some judgement on his/her performance, the nurse will also have an internal drive towards himself/herself, because he/she knows that you will come and check…For those with the same professional title, you need to make a judgement on performance based on his/her workload and work performance based on the usual quality control, and there should be difference, which will give him/her a greater internal drive" (Director Z)

"Is it possible to publicize some of the details of the bonus allocations in our hospital to see how much money is taken by each staff? It will definitely have an impact on the work enthusiasm" (Section chief W)

The second perspective involves the cultivation of organizational learning climate. Interview results show that a clear hospital vision and development goal can enhance staff cohesion and sense of direction, while the exemplary role of leaders and role models can further motivate the willingness to learn and progress of healthcare workers. By forming research support groups, inviting experts for guidance, and establishing a core backbone team, the hospital provides a platform for healthcare workers to learn and grow, and helps them overcome difficulties and inertia in research. This positive organizational learning climate not only improves the professional ability of the healthcare workers, but also enhances their work motivation and career identity.

"From a hospital culture point of view, if the hospital has a clear vision and development goals, the cohesion of the staff will be very strong, and they can work together to achieve a common goal" (Director S)

"But looking at these leaders around us who are very progressive, or the colleagues around us, I think it's quite encouraging. If it's hard to change the external environment, we have to keep learning from the role models around us and then motivate ourselves" (Doctor G)

"The department director also acts as a role model. You will be influenced if you meet a leader or director who is kind and conscientious towards patients when you join the profession" (Director S)

"For example, we can form a research support group to help the medical staff improve their knowledge in research, or even help them revise some of their bids. We can also invite experts from outside the hospital to proofread their bids and make some suggestions for revision… There must be a core person, a backbone" (Doctor Z)

"For example, there are some people who may want to do some research work, but reading literature alone is boring, and people invariably have some inertia. However, if you can find a companion, or a teacher who can guide you, that might be a desirable solution" (Doctor X)

The third perspective involves the individual factors of the healthcare workers, including the internalization of a sense of self-worth and multiple aspects of work-life balance. Interview results show that career fulfillment and external recognition are important driving forces. For example, an increase in the number of patients can enhance healthcare workers' career identity and learning motivation. In addition, family factors and freedom of time management also have an impact on internal drive. When healthcare workers have a better work-life balance and more disposable time, their self-motivation will be significantly enhanced.

"I have so many patient visits that not every patient can seek my treatment as they wish, so many patients pull strings to ask for my treatment, which makes me feel that I'm recognized. The recognition pushes me to update my personal body of knowledge" (Director C)

"I think there are also some factors in terms of the individual's family. If the individual is able to control a little bit more time, then the self-drive will be stronger" (Director Z)

5. Work engagement

The purpose of this question is to find out the perception of work engagement among healthcare workers in the mental health institutions and the differences in work engagement of healthcare workers with different job responsibilities. Overall, the interviewees share the common view that work engagement can be categorized into two aspects, work engagement in clinical aspects and work engagement in non-therapeutic matters such as research. The work engagement of the former is relatively high and that of the latter is relatively low. Interviewees talk about differences in work engagement from three perspectives.

The first perspective involves the individual level, where differences in healthcare workers' positions, age, personality, family background, gender, and education may lead to differences in work engagement. In terms of position, the work engagement of physicians is generally higher than that of the nursing staff and caregivers, and the work engagement of senior physicians is usually higher than that of young physicians. In terms of age, senior-aged healthcare workers with long length of service tend to show higher levels of work engagement. Personality also plays an important role, with meticulous and kind healthcare workers showing

higher work engagement. Family background and family education have a significant impact on work attitudes, and good family upbringing is likely to nurture more responsible and empathetic healthcare workers. In terms of gender, female healthcare workers usually show higher work engagement due to their high sensitivity, while the work engagement of male healthcare workers is relatively low. In terms of education, highly educated healthcare workers tend to deal with problems in a more appropriate manner and have relatively high work engagement. Together, these differences in individual factors shape the work attitudes and work engagement of healthcare workers.

"The work engagement of the medical staff is relatively high. In fact, it varies from doctor to doctor, and doctors who are relatively old with long length of service tend to have high work engagement. The work engagement of the young doctors may be slightly lower that of the older doctors…The work engagement of the caregivers or nurse practitioners are even lower…For those who treat the job as their life career, their work engagement may be slightly higher…Those who are rough in personality may have a relatively low level of work engagement, while those who are meticulous may have a higher level of work engagement" (Director Y)

"Some people have a very good work attitude and treat patients very well, probably because of the influence of family education. Their personality is kind and they are willing to solve problems for these psychiatric patients" (Director S)

"I think it depends on the personality. Some people may get fired up all day and is always motivated" (Doctor X)

"Gender and education also matter. Those with high education might be able to handle things more properly and then their overall engagement would be higher" (Director Y)

"I think there may be more female in the hospital, maybe the female are a little bit more sensitive in this area, and the male may be a little bit less sensitive" (Section chief W)

The second perspective involves the managerial level, where different levels of work power, authorization, and tolerance for error among healthcare workers may lead to differences in work engagement. First, the decentralization of work power is insufficient, and the middle-level managers such as department directors have limited distributable power, making it difficult for them to effectively motivate team members. Second, insufficient authorization and rigid management have limited the healthcare workers to give full play to themselves, especially in small hospitals, where excessive control has weakened the vitality and innovation of the healthcare workers. Finally, there lacks empathy in the system design, which fails to fully reflect the value of healthcare workers. The system design is more hospital-oriented than employee-

oriented, which leads to a decline in the motivation of healthcare workers. In addition, insufficient departmental cooperation and declining social status further exacerbate this negative impact, which may generate job burnout and reduce work engagement.

"I think the power delegated by the department directors is actually getting narrower. But for us, we have a relatively small portion for allocation" (Director Y)

"The management should provide a platform for the staff to show their talents, otherwise, even if some doctors want to make a difference, there is no chance for them to make it. Our hospital is relatively small, so the management is too rigid, resulting in a decline in vitality and innovation capability" (Section chief P)

"As a healthcare worker, I want to make sure whether my value can be seen by this system, and the system also need to have empathy. However, our current system is standing in a relatively outdated position, in which the hospital is the main body, with little attention paid to the healthcare workers" (Director C)

"In terms of departmental cooperation, there is no need for relevant personnel from your department to support anymore, so the social status of doctors in the specialized mental health hospitals is getting increasingly lower… It's possible for mental healthcare workers to just work negatively or whatever and slack off" (Section chief Y)

The third perspective involves the socio-environmental level, where perceived dirty work among healthcare workers, development of the discipline as a whole, and the support of policy resources may all influence work engagement. Interview results show that social discrimination against mental illness and patients' perceived stigma have led to perceived dirty work among healthcare workers, which reduces their career identity and self-worth. In addition, the overall development of psychiatry is relatively slow, and treatment methods and medications are lagging behind, making the working environment lack of vitality and dull compared with that of general hospitals, which further affects the enthusiasm of healthcare workers. Finally, policy resources are still insufficient for psychiatry, with no special attention paid to its particularity and long training cycles. As a result, research support and career development opportunities in psychiatry are limited, which weakens the motivation of healthcare workers and their willingness of long-term work engagement.

"After all, the general public still has a certain degree of discrimination against this disease. The patients themselves also have a certain sense of shame. I think the self-identification of us may be a bit worse than that of doctors in general hospitals" (Doctor Z)

"Overall, the psychiatry department is a little bit spiritless, and it's not as open and lively as other general hospitals…Of course, it has something to do with the type of disease we are

treating. Internationally speaking, the development of psychiatry is actually also quite slow, and there is no big breakthrough. For example, the drugs we used in the 1950s are still used as quasi-first line drugs"

"In terms of scientific research, government departments should take into account the particularity of psychiatry as well as the special characteristics of the training cycle and give preferential policies and resources to psychiatry" (Director C)

Through qualitative analysis, this study delves into several dimensions of healthcare workers in mental health centers, including work particularity, professional identity, occupational stress, internal drive, and work engagement. It is found that the work particularity of healthcare workers in mental health centers is mainly reflected in patient management, therapeutic interactions, and environmental adaptation (Bérubé et al., 2025), which requires them to possess composite competencies of psychological capital, clinical experience, and professional ethics (Director Y, Doctor Z, Director G). This multidimensional particularity requires healthcare workers to not only possess professional skills, but also maintain a high level of psychological tolerance and communication skills in the complex physician-patient relationship (Section chief P, Doctor G, Section chief W). In terms of professional identity, despite the improvement of social perception of mental illness, healthcare workers still face perceived dirty work and insufficient positive feedback (Doctor X, Director S, Section chief Y). This external environment has a significant impact on the professional identity and work status of healthcare workers, as they need to balance acceptance among patients, families, and society (Sandberg et al., 2025) during service delivery, which increases their work complexity and psychological burden (Nurse T, Director S, Section chief Y). In addition, limited career advancement and research pressure further exacerbate this lack of identity (Director C, Doctor Z, Director Y). Regarding occupational stress, communication stress, occupational safety, research pressure, and red tape are the main sources (W. He et al., 2021) (Section chief P, Doctor Z, Section chief W). In particular, communication with patients and their families and the mandatory requirements of research tasks have increased the psychological burden on healthcare workers (Director Y, Doctor Z, Section chief W). The multiple pressures not only affect the working condition of healthcare workers, but also exert a negative impact on their career stability and work engagement. With regard to internal drive, remuneration packages, performance system, organizational learning climate and individual factors together influence the work motivation (Nurse T, Section chief Y, Section chief W). Economic returns and learning opportunities are the key drivers, while the lack of transparency and fairness in performance allocation weakens healthcare workers' internal drive and work enthusiasm (Director Z, Section

chief W). In addition, the building of an organizational learning climate and the exemplary role of leaders exert a positive influence on internal drive (Director S, Doctor G, Doctor Z). Finally, work engagement is influenced by multiple factors including individual differences, the management, and social environment (Director Y, Director S, Doctor X). Factors such as position, age, personality, managerial authorization, and preferential policy resources significantly influence the level of work commitment (Section chief P, Director C, Section chief Y). All in all, healthcare workers in the mental health centers have a relatively high level of work engagement, but relatively low engagement to non-therapeutic matters such as scientific research (Director Y, Director S, Doctor X).

In summary, the working environment of healthcare workers in mental health centers is complicated and challenging, and it is urgent to enhance their professional identity and work engagement by improving the remuneration system, optimizing management authorization, strengthening the organizational learning climate, and providing more policy support, so as to better contribute themselves to the mental health industry.

5.2 Quantitative results

5.2.1 Descriptive statistical analysis

As for the individual situation of the mental healthcare workers, in terms of gender distribution, female workers account for a larger proportion, reaching 86.53%, while male workers account for only 13.47%. In terms of age, healthcare workers aged from 31 to 40 years old account for the highest proportion of 43.52%, indicating that workers of this age group are the core strength of the center; followed by the workers aged from 41 to 50 years old and 21 to 30 years old, accounting for 24.61% and 22.28% respectively. In terms of years of work experience, the proportions of healthcare workers with more than 20 years of experience and 11 to 15 years of experience are relatively high, accounting for 26.17% and 25.65% respectively. In terms of educational level, healthcare workers with bachelor's degree account for the majority, with a proportion as high as 70.72%, and those with master's degree and above account for 11.66%, indicating that most healthcare workers in the center have relatively high educational background.

The descriptive statistics provide a comprehensive picture of the basic characteristics of the mental healthcare workers surveyed in this research, which helps to provide an in-depth understanding of its human resource structure and lays a solid foundation for further research.

The detailed individual situation of the samples is shown as per Table 5.3.

Table 5.3 Individual situation of the samples (n=386)

Dimension	Option	Frequency	Percentage
Gender	Female	334	86.53%
	Male	52	13.47%
Age	21-30	86	22.28%
	31-40	168	43.52%
	41-50	95	24.61%
	51-60	37	9.59%
Overall length of service	Less than 5 years	47	12.18%
	5-10 years	82	21.24%
	11-15 years	99	25.65%
	16-20 years	57	14.76%
	More than 20 years	101	26.17%
Length of service in the hospital	Less than 5 years	95	24.61%
	5-10 years	86	22.28%
	11-15 years	78	20.21%
	16-20 years	49	12.69%
	More than 20 years	78	20.21%
Length of service in the department	Less than 5 years	162	41.97%
	5-10 years	99	25.65%
	11-15 years	67	17.36%
	16-20 years	23	5.95%
	More than 20 years	35	9.07%
Educational background	College degree and below	68	17.62%
	Bachelor's degree	273	70.72%
	Master's degree	40	10.36%
	Doctorate and above	5	1.30%

5.2.2 Scale reliability and validity analysis

Reliability assessment reflects the reliability of the data measured by the scale, namely, the degree of consistency of the results obtained through multiple measurements of the same scale. There are four main categories of reliability analysis: Cronbach's α coefficient, split-half reliability, parallel-forms reliability, and test-retest reliability. In questionnaire survey, Cronbach's α coefficient is usually used to measure reliability. An internal consistency coefficient (Cronbach's α coefficient) that exceeds 0.8 indicates very high reliability. An internal consistency coefficient (Cronbach's α coefficient) between 0.7 and 0.8 indicates good reliability. If the coefficient is lower than 0.6, the scale needs to be modified. According to Henseler et al. (2009), if the Cronbach's α coefficient is greater than 0.7, it is generally considered to be acceptable. Judging from the calculation formula of the Cronbach's α coefficient, if the sample size exceeds 200 and if there are relatively a great number of question items, the coefficient tends to be high. In order to identify the question items that affect reliability, the Corrected Item-Total Correlation (CITC) can be calculated. If the CITC value is lower than 0.4 or if the Cronbach's α coefficient increases after deleting an item, the item should

be considered for deletion.

Reliability analysis requires that each variable shall be tested individually. We use SPSS 26.0 to conduct reliability analysis for the seven variables and their dimensions, namely, perceived dirty work, red tape, work engagement, occupational safety, organizational learning environment, job crafting, and work performance. The question items of these variables have been screened by pre-experimental data of exploratory factor analysis and the Cronbach's α coefficients of each variable or dimension are summarized as per Table 5.4, 5.5, 5.6, and 5.7. Such analytical steps help ensure the reliability and validity of the data and lay a solid foundation for subsequent research.

Amos is used for confirmatory factor analysis (CFA) to assess the discriminant validity of key variables. Since one variable in the model, work performance, is measured only by a one-item scale (which does not fulfill the prerequisites for CFA), we test a three-factor model containing the independent variables, moderators, and mediators. We carry out item parceling of the constructs of question items, and form three indicators based on the variables of work engagement, organizational learning climate, and job crafting. The factorial algorithm approach is adopted for data merging (Rogers & Schmitt, 2004). According to the factor analysis results, the question items with relatively high factor loadings are merged with those with relatively low factor loadings.

The CFA results of Model I composed of perceived dirty work, occupational safety and work engagement are as follows: χ^2/df=3.271, AIC=3768, BIC=3812, RMSEA=0.077, SRMR=0.083, TLI=0.966, CFI=0.975. The goodness of fit is significantly better than the bi-factor model (perceived dirty work and occupational safety) (χ^2/df=14.268, AIC=7169, BIC=7170, RMSEA=0.171, SRMR=0.156, TLI=0.709, CFI=0.776) and the single-factor model (χ^2/df=46.637, AIC=7169, BIC=7170, RMSEA=0.316, SRMR=0.224, TLI=0.499, CFI=0.610).

The CFA results of Model II composed of perceived dirty work, organizational learning climate, and work engagement are as follows: χ^2/df = 3.096, AIC = 2903, BIC = 2946, RMSEA = 0.074, SRMR = 0.078, TLI = 0.959, CFI = 0.970. The goodness of fit is significantly better than the bi-factor model (perceived dirty work and organizational learning climate) (χ^2/df=9.650， AIC=17480， BIC=17690， RMSEA=0.172， SRMR=0.147， TLI=0.806， CFI=0.821) and the single-factor model (χ^2/df=23.994, AIC=9894, BIC=9897, RMSEA=0.225, SRMR=0.276, TLI=0.337, CFI=0.448).

The CFA results of Model III composed of red tape, job crafting, and work engagement are as follows: χ^2/df = 9.739, AIC = 1348, BIC = 1510, and RMSEA=0.151, SRMR=0.036,

TLI=0.809, CFI=0.838. The goodness of fit is significantly better than the bi-factor model (red tape and job crafting) (χ^2/df=12.687, AIC=17225, BIC=17231, RMSEA=0.160, SRMR=0.157, TLI=0.528, CFI=0.580) and the single-factor model (χ^2/df=25.756，AIC=17225，BIC=17231, RMSEA=0.233, SRMR=0.230, TLI=0.569, CFI=0.601) . The results show that these models have desirable goodness of fit.

The above results support the discriminant validity of the key variables.

Table 5.4 Reliability of the perceived dirty work scale (n=386)

Dimension	No.	Indicator	CITC	Cronbach's α if item deleted	Overall Cronbach's α
Perceived dirty work	1	Most people do not want anything to do with my job.	0.674	0.883	0.892
	2	Few people would be proud to have a job like mine.	0.720	0.871	
	3	Most people would resent or loathe what I do for a living.	0.831	0.846	
	4	People in my profession have been demeaned.	0.721	0.871	
	5	People may not respect me as much because of my profession.	0.735	0.868	

Table 5.5 Reliability of the red tape scale (n=386)

Dimension	No.	Indicator	CITC	Cronbach's α if item deleted	Overall Cronbach's α
Red tape	1	The division of labor policies and procedures in my department (ward) are a burden to me.	0.692	0.826	0.844
	2	The division of labor policies and procedures in my department (ward) are unnecessary for me.	0.741	0.824	
	3	The division of labor policies and procedures in my department (ward) are not working for me.	0.757	0.822	
	4	The rules I have to follow at work have a clear use for my work activities.	0.486	0.842	
	5	The rules I have to follow at work help me to achieve my work objectives.	0.527	0.840	
	6	The rules I have to follow at work help me to do my job well.	0.527	0.840	
	7	The rules I have to follow in my work serve a useful purpose.	0.495	0.8420	
	8	The rules I have to follow at work cause me a lot of stress.	0.558	0.838	
	9	The rules I have to follow in my job are easy to obey and follow.	-0.490	0.895	
	10	The rules I have to follow at work take a lot of time to follow.	0.522	0.840	

Dimension	No.	Indicator	CITC	Cronbach's α if item deleted	Overall Cronbach's α
	11	The rules I have to follow at work cause a lot of delays in my work.	0.749	0.820	
	12	The rules I have to follow at work cause me a lot of obstacles.	0.736	0.821	

Table 5.6 Reliability of the work engagement scale (n=386)

Dimension	No.	Indicator	CITC	Cronbach's α if item deleted	Overall Cronbach's α
Work Engagement	1	At my work, I feel bursting with energy.	0.814	0.966	0.968
	2	At my job, I feel strong and vigorous.	0.845	0.964	
	3	When I get up in the morning, I feel like going to work.	0.816	0.966	
	4	I am passionate about mental health.	0.922	0.961	
	5	The work of mental health inspires me.	0.939	0.960	
	6	I am proud that I work in mental health.	0.897	0.962	
	7	I feel happy when I am working intensely.	0.913	0.961	
	8	I am immersed in my work.	0.827	0.965	
	9	I get carried away when I'm working.	0.787	0.967	

Table 5.7 Reliability of the moderator scale (n=386)

Dimension	No.	Indicator	CITC	Cronbach's α if item deleted	Overall Cronbach's α
Occupational safety	1	The potentially aggressive behavior of patients scares me at work。	0.906	0.941	0.958
	2	The risk of harm from patients worries me.	0.926	0.925	
	3	The patient's unstable mental state makes me feel agitated.	0.898	0.947	
Organizational learning climate	1	Attractive educational learning conditions are provided.	0.730	0.861	0.891
	2	Adequate resources are provided for my capacity development.	0.753	0.859	
	3	Employees can get the training they need.	0.715	0.863	
	4	Employees who continue to develop their professional competencies are rewarded for doing so.	0.753	0.860	
	5	If employees continue to develop their professional competencies, they will be quickly promoted.	0.717	0.862	
	6	Employees who strive to learn new things earn appreciation and respect.	0.733	0.862	

Dimension	No.	Indicator	CITC	Cronbach's α if item deleted	Overall Cronbach's α
	7	Employees are afraid to admit mistakes.	0.422	0.889	
	8	Employees are afraid to discuss mistakes.	0.504	0.882	
	9	Employees are afraid to openly discuss relevant issues that arise at work.	0.471	0.885	
	1	I will introduce new ways and means to improve my work.	0.729	0.966	
	2	The scope or type of my work assignments will be changed based on the actual situation when my work is completed.	0.782	0.965	
	3	New work assignments that better match my professional skills or personal interests are proposed.	0.791	0.965	
	4	If necessary, I will choose to take on additional tasks at work.	0.756	0.966	
	5	I will prioritize tasks that match my professional skills or personal interests.	0.802	0.965	
	6	I will think about how mental health work affects my life goals.	0.787	0.965	
	7	I remind myself of the importance of my work to the good development of the mental health center.	0.873	0.963	
Job crafting	8	I remind myself of the importance of my work to people in our society who have mental illness or psychological problems.	0.882	0.963	0.967
	9	I think about the positive impact mental health work has exerted on my life.	0.821	0.964	
	10	I think about the role mental health work has played in my personal well-being.	0.823	0.964	
	11	I strive to understand and familiarize myself with my coworkers at work.	0.761	0.966	
	12	I organize or participate in social events related to mental health work.	0.836	0.964	
	13	I organize activities in the department (ward) after work (e.g., celebrating a colleague's birthday).	0.802	0.965	
	14	I instruct my colleagues who are new to the department through formal or informal ways.	0.799	0.965	
	15	I make friends with coworkers who have similar skills or interests to me.	0.752	0.966	

According to the above Table 5.4 to Table 5.7, the overall Cronbach's α coefficients of the six variables of perceived dirty work, red tape, work engagement, occupational safety, organizational learning climate, and job crafting are 0.892, 0.844, 0.968, 0.958, 0.891, and 0.967, respectively. The results indicate that each of the variables and dimensions present very high reliability. The CITC values of all the question items are greater than 0.4, and deletion of any item does not improve the overall Cronbach's α coefficient. Therefore, all the question items of the six variables (including all dimensions) are not modified or deleted.

In this study, SPSS 26.0 is used for exploratory factor analysis to verify the construct validity of the questionnaire. Before conducting the exploratory factor analysis, two indicators, the KMO (Kaiser-Meyer-Olkin) value and the Bartlett's test of sphericity, are utilized to determine whether the data are suitable for factor analysis (Table 5.8). If the KMO value is greater than the general criterion of 0.6 and the *p* value of Bartlett's test of sphericity is less than the test criterion of 0.01, it means that it is suitable for factor analysis. By analyzing the construct validity of the seven variables of perceived dirty work, red tape, work engagement, occupational safety, organizational learning climate, job crafting, and work performance, we find that the KMO value is 0.912 and the *p* value is 0.000, which passes the KMO and Bartlett's test.

Table 5.8 KMO and Bartlett's test results

KMO and Bartlett's test		
Kaiser-Meyer-Olkin sampling adequacy test		0.912
Bartlett's test of sphericity	Approximate chi-squared value	26793.744
	Degree of freedom	1711
	Statistical significance	0

5.2.3 Correlation analysis

A correlation analysis is carried out on the control variables and seven variables, and the results are shown as per Table 5.9. As can be seen from the table, there is a significant negative correlation between perceived dirty work and work engagement (r = -0.224, $p<0.01$), and a significant positive correlation between work engagement and occupational safety (r = 0.252, $p<0.01$). There is a significant negative correlation between work engagement and red tape (r = -0.379, $p<0.01$). There is a significant negative correlation between job crafting and red tape (r = -0.143, $p<0.01$), and a significant positive correlation between job crafting and work engagement (r = 0.564, $p<0.01$), which suggests that healthcare workers who actively engage in job crafting not only cope better with red tape, but also have higher work engagement. Finally, there is a significant positive correlation between work performance and work engagement (r =

0.184, $p<0.01$).

The correlation analysis reveals the complex relationships between different variables among the mental healthcare workers, provides preliminary evidence for further exploration of the causal relationships among these variables, and serves as an important reference for the improvement of job satisfaction and performance of the healthcare workers. It is important to note that although the correlation analysis shows significant relationships, whether these relationships are causal or not still needs to be further verified through regression analysis. At the level of correlation analysis, the model of this study has been initially validated based on the results of correlation between the above dimensions. Although the correlation analysis initially shows the validity of the research hypotheses and indicates that there are significant correlations between the variables, whether the correlations are causal or not needs to be further verified by regression analysis.

Table 5.9 Correlation analysis results

	Gender	Age	Overall length of service	Length of service in the hospital	Length of service in the department	Educational background	Perceived dirty work	Red tape	Work engagement	Occupational safety	Job crafting	Organizational learning climate	Work performance
Gender	1												
Age	-0.055	1											
Overall length of service	-0.018	0.363**	1										
Length of service in the hospital	-0.065	0.316**	0.838**	1									
Length of service in the department	-0.015	0.268**	0.536**	0.591**	1								
Educational background	0.138**	-0.104*	-0.170**	-0.209**	-0.196**	1							
Perceived dirty work	-0.066	0.071	-0.029	0.025	0.048	-0.054	1						
Red tape	-0.076	0.026	-0.001	0.073	0.139**	-0.081	0.523**	1					
Work engagement	0.041	0.007	-0.023	-0.087	-0.060	0.201**	-0.224**	-0.379**	1				
Occupational safety	0.239**	0.045	-0.042	-0.085	-0.029	0.185**	-0.376**	-0.344**	0.252**	1			

	Gender	Age	Overall length of service	Length of service in the hospital	Length of service in the department	Educational background	Perceived dirty work	Red tape	Work engagement	Occupational safety	Job crafting	Organizational learning climate	Work performance
Job crafting	0.008	0.021	-0.060	-0.051	-0.004	0.252**	-0.118*	-0.143*	0.564**	0.120*	1		
Organizational learning climate	-0.021	-0.124*	-0.077	-0.120*	-0.098	0.010	-0.156**	-0.292**	0.186**	0.047	0.102*	1	
Work performance	0.093	-0.049	-0.120*	-0.126*	-0.155**	0.083	-0.021	0.009	0.184**	0.080	0.124*	-0.048	1

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

5.2.4 Model hypothesis testing

In this study, the direct effects in the model were first tested by linear regression, and the results of the analysis are shown in Table 5.10. The perceived dirty work has a significant negative effect on work engagement (B =-0.169, p<0.01), and red tape also has a significant negative effect on work engagement (B =-0.471, p<0.01), so H1 and H2 are supported.

Table 5.10 Direct effect regression analysis results (n=386)

Variable	Work engagement			Work performance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	0.022	-0.012	-0.048	0.291	0.291	0.309
Age	0.002	0.003	0.002	0.001	0.000	0.000
Overall length of service	0.122	0.089	0.057	-0.041	-0.060	-0.047
Length of service in the hospital	-0.135	-0.116	-0.094	-0.003	0.020	0.014
Length of service in the department	-0.005	0.004	0.044	-0.110	-0.110	-0.125*
Educational background	0.356***	0.342***	0.324***	0.079	0.013	0.008
Perceived dirty work		-0.169***			0.024	
Red tape			-0.471***			0.159*
Work engagement					0.192**	0.231***
F	3.484	5.678	11.785	2.130	3.474	3.826
R^2	0.052	0.095	0.180	0.036	0.065	0.075

Perceived dirty work→Work engagement→Work performance			
Indirect effect	*SE*	LLCI	ULCI
-0.032	0.012	-0.059	-0.012

Red tape→Work engagement→Work performance			
Indirect effect	*SE*	LLCI	ULCI
-0.109	0.032	-0.176	-0.050

Note: * means p<0.05, ** means p<0.01, *** means p<0.001.

The hypothesis testing of the mediating and moderating effects of the research model is carried out using SPSSPROCESS plug-in, with 95% confidence interval and 5000 repeated samplings, and the results are as follows.

The mediation role of work engagement in the relationship between perceived dirty work and work performance is analyzed. Perceived dirty work has a significant negative effect on work engagement, and Table 5.10 shows that work engagement has a significant positive effect on work performance (B=0.192, p<0.01). The value of the indirect effect of work engagement is -0.032, and the 95% confidence interval is [- 0.059, -0.012] (excluding 0). The mediation effect is significant, indicating that work engagement plays a mediation role in the relationship between perceived dirty work and work performance. Therefore, H3 is supported.

The mediation role of work engagement in the relationship between red tape and work performance is analyzed. Red tape has a significant negative effect on work engagement, and Table 5.10 shows that work engagement has a significant positive effect on work performance

(B=0.231, p<0.001). The value of the indirect effect of work engagement is -0.109, and the 95% confidence interval is [-0.176, - 0.050] (excluding 0). The mediating effect is significant, indicating that work engagement plays a mediating role in the relationship between red tape and work performance. Therefore, H4 is supported.

The moderating role played by occupational safety between perceived dirty work and work engagement is analyzed, and the results of the hypothesis validation are shown in Table 5.11. The interaction term between occupational safety and perceived dirty work is significant (B=-0.058, p<0.05), and occupational safety moderates the relationship between perceived dirty work and work engagement. The simple slope chart is plotted as per Figure 5.1. As can be seen from the chart, in the case of high occupational safety, the negative effect of perceived dirty work on work engagement is strong; conversely, the negative effect of perceived dirty work on work engagement is weak. Therefore, H5 is supported.

Table 5.11 Regression analysis of the moderating effect of occupational safety (n =386)

Variable	Work engagement	
	B	*SE*
Gender	-0.111	0.158
Age	0.003	0.004
Overall length of service	0.087	0.072
Length of service in the hospital	-0.103	0.069
Length of service in the department	0.000	0.051
Educational background	0.296**	0.095
Perceived dirty work	0.071	0.085
Organizational safety	0.286***	0.078
Perceived dirty work × Organizational safety	-0.058*	0.023

Note: *means $p<0.05$, **means $p<0.01$, ***means $p<0.001$

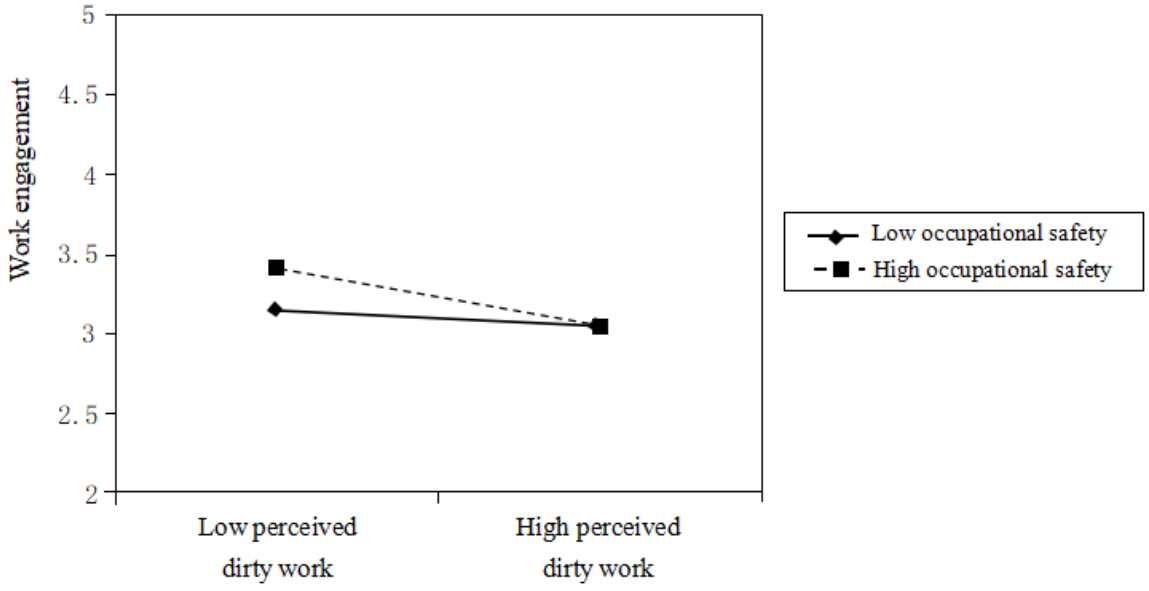

Figure 5.1 Simple slope chart of the moderating role of occupational safety in the relationship between perceived dirty work and work engagement

The moderating role played by organizational learning climate in the relationship between perceived dirty work and work engagement is analyzed, and the results of specific hypothesis verification are shown in Table 5.12. The interaction term between organizational learning climate and perceived dirty work is significant (B=0.099, p<0.01). Organizational learning climate moderates the relationship between perceived dirty work and work engagement, and a simple slope chart is plotted as per Figure 5.2. The higher the degree of organizational learning climate, the weaker the negative effect of perceived dirty work on work engagement; conversely, the stronger the negative effect of perceived dirty work on work engagement. Therefore, H6 is supported.

Table 5.12 Regression analysis of the moderating effect of organizational learning climate (n =386)

Variable	Work engagement	
	B	*SE*
Gender	-0.003	0.154
Age	0.005	0.004
Overall length of service	0.075	0.072
Length of service in the hospital	-0.099	0.069
Length of service in the department	0.014	0.051
Educational background	0.370***	0.094
Perceived dirty work	-0.648**	0.192
Organizational learning climate	0.183	0.140
Perceived dirty work × Organizational learning climate	0.099**	0.037

Note: *means $p<0.05$, **means $p<0.01$, ***means $p<0.001$

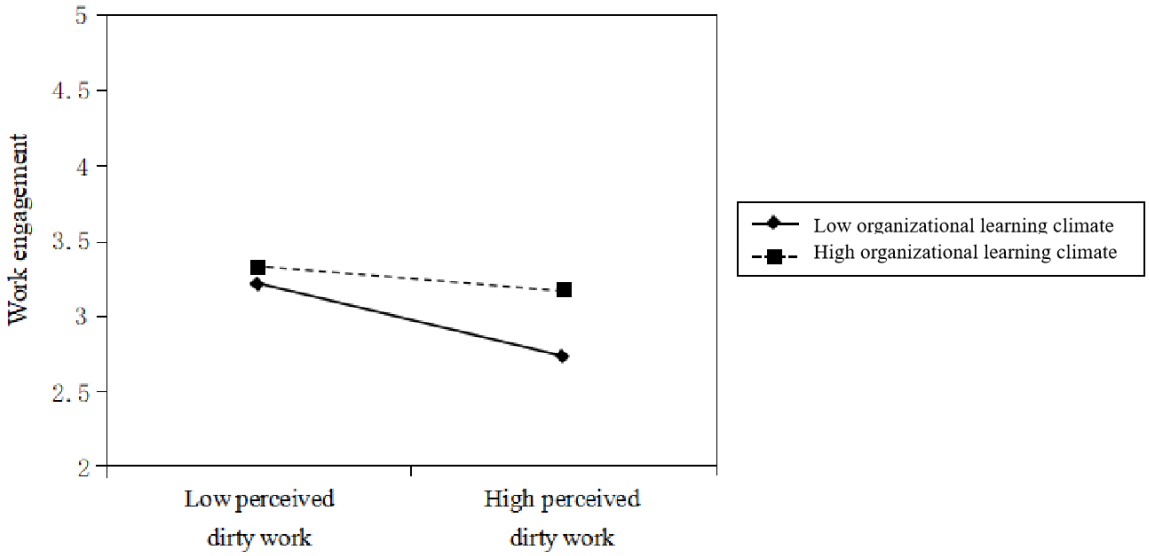

Figure 5.2 Simple slope chart of the moderating role of organizational learning climate in the relationship between perceived dirty work and work engagement

The moderating role played by job crafting in the relationship between red tape and work engagement is analyzed, and the results of specific hypothesis testing are shown as per Table 5.13. The interaction term between job crafting and red tape is significant (B=0.096, p<0.05),

and job crafting significantly moderates the relationship between red tape and work engagement. A simple slope chart is plotted as per Figure 5.3. It can be seen from the chart that in the case of high job crafting, the negative effect of red tape on work engagement is weak; conversely, the negative effect of red tape on work engagement is strong. Therefore, H7 is supported.

Table 5.13 SPSS Regression analysis of the moderating effect of job crafting (n =386)

Variable	Work engagement	
	B	*SE*
Gender	0.002	0.126
Age	0.000	0.003
Overall length of service	0.102	0.059
Length of service in the hospital	-0.114*	0.056
Length of service in the department	0.014	0.042
Educational background	0.072	0.079
Red tape	-0.771***	0.184
Job crafting	0.229	0.141
Red tape × Job crafting	0.096*	0.043

Note: *means $p<0.05$, **means $p<0.01$, ***means $p<0.001$.

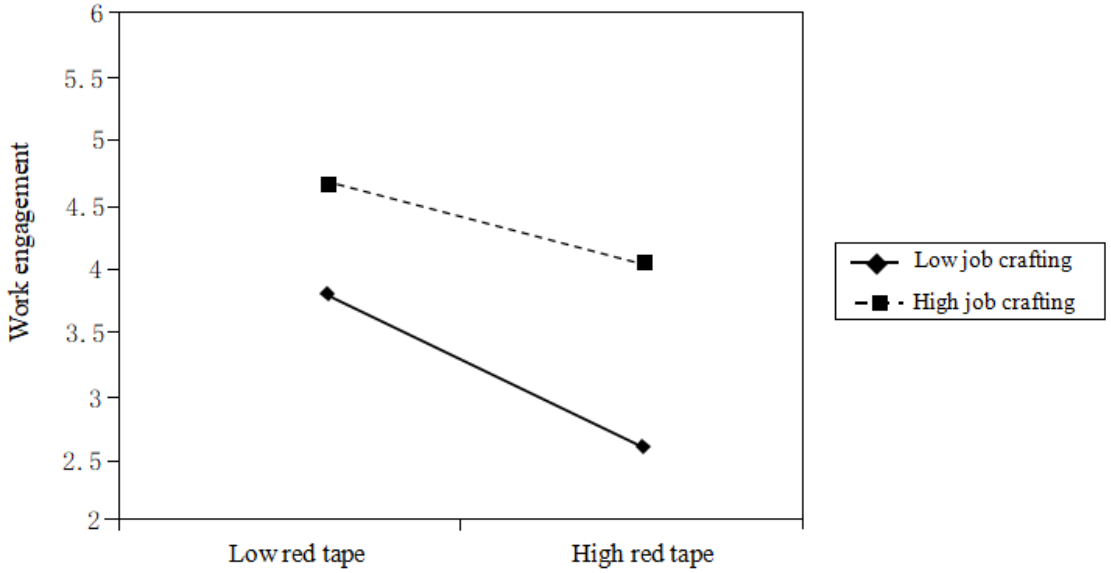

Figure 5.3 Simple slope chart of the moderating role of job crafting in the relationship between red tape and work engagement

To further test the existence and significance of the moderated mediation effect, this study used SPSS 26.0 for data processing and Bootstrap method for analysis. The moderated mediating path in the model was estimated and validated by setting 5000 repeated samplings. The specific analysis results are detailed in Table 5.14. In the case of high occupational safety, the mediating effect of work engagement in the relationship between perceived dirty work and work performance is significant; in the case of low organizational learning climate, the mediating effect of work engagement in the relationship between perceived dirty work and work performance is significant; no matter whether the level of job crafting is high or not, the

mediating effect of work engagement in the relationship between red tape and work performance is significant, and the mediating effect in strong in the case of low job crafting. Therefore, hypotheses 8, 9 and 10 are supported.

Table 5.14 Validation of the moderated mediating effect (n =386)

Perceived dirty work →Work engagement → Work performance			
Occupational safety	Mediating effect	LLCI	ULCI
High (M + 1 SD)	-0.043	-0.080	-0.015
Low (M - 1 SD)	-0.007	-0.031	0.018
Perceived dirty work →Work engagement → Work performance			
Organizational learning climate	Mediating effect	LLCI	ULCI
High (M + 1 SD)	-0.012	-0.036	0.009
Low (M - 1 SD)	-0.051	-0.096	-0.019
Red tape →Work engagement → Work performance			
Job crafting	Mediating effect	LLCI	ULCI
High (M + 1 SD)	-0.068	-0.113	-0.031
Low (M - 1 SD)	-0.115	-0.223	-0.038

The data obtained from the survey were tested for correlation with the help of SPSS 26.0, and the main effect, mediating effect, and moderating effect in the research model were systematically validated. The results of the specific hypothesis validation are detailed as per Table 5.15.

Table 5.15 Validation results of the hypotheses

SN	Hypotheses	Validation results
H1	There is a significant negative correlation between perceived dirty work and work engagement among healthcare workers.	√
H2	There is a significant negative correlation between red tape and work engagement among healthcare workers.	√
H3	Work engagement mediates the relationship between perceived dirty work and work performance.	√
H4	Work engagement mediates the relationship between red tape and work performance.	√
H5	Occupational safety moderates the relationship between perceived dirty work and work engagement.	√
H6	Organizational learning climate moderates the relationship between perceived dirty work and work engagement.	√
H7	Job crafting moderates the relationship between red tape and work engagement.	√
H8	Occupational safety moderates the indirect effect of perceived dirty work on work performance through work engagement.	√
H9	Organizational learning climate moderates the indirect effect of perceived dirty work on work performance through work engagement.	√
H10	Job crafting moderates the indirect effect of red tape on work performance through work engagement.	√

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Chapter 6: Discussion

6.1 Research results

With the deepening of social understanding of mental health issues, mental healthcare institutions play a crucial role in the provision of professional medical services. Especially in recent years, with the accelerated social development and social structure changes, the need for mental health has further come to the fore, and a large number of individuals and families have begun to pay attention to professional help in the areas of mental health counseling, emotional management, and diagnosis and treatment of illnesses. As the core force of these organizations, the working condition of the healthcare workers not only affects the quality and efficiency of medical services, but also exerts a profound impact on the recovery process and mental health of the patients. Compared with their counterparts in other clinical departments, mental healthcare workers often have to bear higher mental pressure and emotional burden. They need to have professional clinical knowledge and skills on the one hand, and good communication and psychological guidance skills on the other (Jin et al., 2025). However, due to the particularity of their working environment, the mental healthcare workers often face multiple challenges, including high work pressure, tense doctor-patient relationship, and social prejudice against certain mental health professions, which may lead to perceived dirty work (Y. Y. Zhu & Dou, 2023). When the efforts and dedication of the healthcare workers are not fully recognized by the society, or even encounter discrimination or prejudice, their sense of self-worth will be undermined, which in turn will exert a negative impact on their work motivation and professional identity.

In addition to stress and prejudice from the external environment, there may exist red tape within the healthcare institutions, such as excessively complex work processes, multiple levels of approvals, and a large number of redundant rules and regulations, all of which exert a significant impact on the work experience and work performance of the healthcare workers. (Kohnen et al., 2023a). Under the cumbersome administrative or management procedures, healthcare workers need to spend more energy on unnecessary paperwork and regulatory coping, resulting in their inability to devote more attention and resources to the core healthcare services. Red tape not only cuts down the time for healthcare workers to communicate with patients, but

also tends to trigger feelings of frustration and powerlessness, which in turn reduces their work motivation. In addition, work engagement of the healthcare workers depends on a variety of factors such as organizational climate, work resources, and occupational safety (Malik & Garg, 2020). A high-pressure work state that continues to lack effective resource support and emotional care will most likely lead to a rise in burnout and alienation among the healthcare workers. In the long run, this will not only jeopardize their physical and mental health, but also adversely affect the quality of medical care and patient recovery. Therefore, it is of profound significance to study and analyze the influence of perceived dirty work and red tape on the work engagement and work performance of the mental healthcare workers, so as to improve the quality of mental healthcare service system.

Based on the JD-R model, we have systematically reviewed relevant literature. We have explored different perspectives of the perceived dirty work and red tape, and regard them as one of the components of the "job demands" of healthcare workers, which means that they may increase the psychological and behavioral load of the healthcare workers; meanwhile, work engagement is regarded as the core performance of the "psychological resources" embodied in the work situation, and work performance is the final output that reflects the overall performance of the healthcare workers in their professional services and role functions. We have also explored the relationship between work engagement and work performance (Schaufeli, 2003). This study not only provides a systematic review at the theoretical level, but also integrates in-depth interviews with experts in the field of mental healthcare to verify the actual impact of perceived dirty work and red tape on work engagement and work performance of the healthcare workers from an empirical perspective. According to the interview results, healthcare workers generally believe that when they feel that their dignity and respect are violated at work, they will become dissatisfied with the organization or the profession, and may adopt "self-protecting" behaviors, such as reducing interactions with patients or colleagues, and lowering their work enthusiasm. Similarly, healthcare workers generally complain that red tape in healthcare institutions takes up a lot of time and energy in their daily work, which not only affects their mood and work efficiency, but also causes frustration and increased turnover intention in the long run. On this basis, this study further constructs a theoretical model, with the perceived dirty work and red tape as the independent variables, work engagement as the mediator, occupational safety, organizational learning climate and job crafting as the moderators, and work performance as the dependent variable, attempting to test the relationship and mechanism of action among the different variables through regression analysis.

A variety of research methods have been utilized in the empirical part of this study to ensure

diversity of the data and robustness of the research findings. First, qualitative data are collected through an in-depth interview method with psychologists, psychiatric nurses, and administrators in mental health centers, with the aim of gaining first-hand insights into the subjective perceptions of the healthcare workers' perceived dirty work and red tape and the actual influence, as well as their self-assessment of work engagement and views on work performance. Second, the questionnaire survey method is used to collect quantitative data extensively. In the design of the questionnaire, we refer to the existing mature scales to measure the key dimensions (perceived dirty work, red tape, work engagement, and occupational safety), and make necessary modifications and localization according to the characteristics of mental healthcare. In order to improve the representativeness and reliability of the samples, we distribute questionnaires at different levels of mental healthcare institutions (municipal, provincial and specialized hospitals) and cover as many different regions and job positions as possible. Finally, SPSS is used for reliability analysis, validity analysis, and structural equation modeling of the obtained data, thus exploring the mechanisms of association between these variables in a more comprehensive manner.

According to the results of the regression analysis, we have reached the following conclusions.

(1) Work engagement has a significant positive effect on work performance. This result suggests that when healthcare workers are highly engaged in their work at the emotional, cognitive, and behavioral levels, they are better able to carry out in-depth communication with their patients and improve their medical skills and service quality, which leads to better work performance.

(2) Perceived dirty work has a significant negative effect on work engagement. When healthcare workers feel that their work does not have enough social respect and professional dignity, or when they encounter unfair treatment from the surrounding environment, they will reduce their work enthusiasm and work engagement, which will bring hidden dangers to their work performance.

(3) Red tape also has a negative impact on work engagement. Healthcare workers who have to deal with excessive paperwork, cumbersome approval processes, or lengthy internal systems are likely to be distracted from medical practice, leading to an overlay of fatigue and inefficiency, which will ultimately weaken their work engagement.

(4) Organizational learning climate plays a significant moderating role in the relationship between perceived dirty work and work engagement. This means that when a healthcare institution advocates learning, encourages innovation, and provides employees with a platform

for discussion and advancement, the negative impact of perceived dirty work on work engagement can be effectively attenuated. On the contrary, if the institution lacks attention to employee growth and learning, the negative effect of perceived dirty work will be more obvious.

(5) Occupational safety also plays a significant moderating role between perceived dirty work and work engagement, but in a different direction. When healthcare workers perceive occupational safety, the negative effect of perceived dirty work on work engagement is more likely to be stimulated. This may be because healthcare workers are extraordinarily sensitive to deficiencies in other aspects of their work when their perceived occupational safety is satisfied, thus feeling the harm of dirty work more quickly.

(6) Job crafting plays a moderating role in the relationship between red tape and work engagement. Job crafting is a bottom-up work optimization strategy in which healthcare workers can redefine the way they work, streamline processes, or proactively seek resources to reduce the distress caused by red tape and mitigate to some extent the negative impact on work engagement.

The results of this study are mainly reflected in two aspects. First, at the descriptive statistics level, the preliminary organization and analysis of the collected data demonstrate the basic characteristics of the variables of perceived dirty work, red tape, work engagement, occupational safety, organizational learning climate, and job crafting as well as distribution of these variables. For example, which types of healthcare workers are more likely to feel perceived dirty work? What are the characteristics of red tape in different levels of healthcare institutions? These statistical-level findings provide the data basis for the research conclusions. Second, at the empirical level, according to the dimensions of the variables, the samples are selected for measurement, and the relationship between the variables and their mutual influence are analyzed. Through these analyses, this study aims to reveal how perceived dirty work, red tape, and moderators (organizational learning climate, occupational safety, and job crafting) affect healthcare workers' work engagement and work performance.

6.1.1 Descriptive statistical results

This study conducts a systematic descriptive statistical analysis of the demographic characteristics of the mental healthcare workers, and the results provide a relatively clear picture of the basic situation and structural characteristics of this group. First, in terms of gender distribution, it is found that 86.53% of the healthcare workers are female, while only 13.47% are male. Such an obvious gender gap is not uncommon in the medical profession, especially in mental healthcare, and may have multiple socio-cultural and organizational reasons behind

it. Traditionally, women are associated with "caring", "nurturing", and "emotional labor", and are viewed as more approachable, empathetic, and patient, which are qualities that are often associated with mental healthcare (Q. R. Sun, 2015). For example, mental health nursing, psychological counseling, and patient companionship often require a great deal of communication and emotional support, which is often more relevant to women in terms of social role expectations. As a result, healthcare institutions tend to select women for such job positions, either unconsciously or consciously, in recruitment. In addition, from a historical perspective, nursing and ancillary care work has also been viewed as one of the traditional occupations for women, and social biases or stereotypes about mental health nursing positions have further contributed to the trend of "feminization" of this job position (Meng & Zhong, 2022).

In addition, in terms of age distribution, healthcare workers in the age group of 31 to 40 years old are the main force of the mental health center, accounting for 43.52%. This data suggests that in the field of mental health, healthcare workers in the age of thirties and forties are the mainstream. They are in a stable and upward-moving period of their career, and compared with young people under 25 years old, healthcare workers in this stage tend to have accumulated a certain amount of clinical experience and interpersonal communication skills, as well as a certain degree of stress resistance. From the perspective of career development theory, Super's five-stage classification system points out that the period between the ages of 25 and 44 is the "career establishment stage" (Stipanovic & Lewis, 2008). In this stage, individuals usually have relatively stable interests in and selection of their careers, and gradually seek higher positions, and more responsibilities and challenges in the organization. Healthcare workers between 31 and 40 in mental health centers often have received more systematic professional training at the undergraduate or graduate level and have deepened their clinical and practical skills over a number of years. Due to the high emotional and technical demands of mental health work, the professional maturity and service competence of this group of people in their professional establishment stage have a positive impact on the medical quality and patient satisfaction. They are the "backbone" forces that support the core functioning of the mental health institutions and may play a leading role in hospital management and team building.

In terms of years of working experience, the proportions of healthcare workers with 11 to 15 years and more than 20 years of working experience are the same, both at 25.91%. To a certain extent, the proportions reflect the "two-end" distribution of the staff structure of the center. On one end, there are senior staff with long working experience and rich clinical and

managerial experience; on the other end, there are young and middle-aged staff with relatively short working experience who are in the stage of rapid accumulation of their professional abilities. For a specialty such as mental health, senior staff have unique experience and insights in dealing with complex cases, emergency situations and case management, and may also play a leading role in crisis intervention and team training. Not only can they maintain a high level of professionalism under the pressure of heavy workload, but they can also help young healthcare workers to grow rapidly through teaching, demonstration and experience transfer. More importantly, these experienced staff are often able to make constructive suggestions on the development of the industry and the optimization of the organization, thus playing a key role in promoting the quality of healthcare services and improving rules and regulations and work processes.

To sum up, the descriptive analysis of demographic variables such as gender, age, and years of working experience in this study not only provides solid background information on the samples for subsequent studies, but also reveals some characteristic distributions of the staffing structure in mental healthcare. For example, the high proportion of female practitioners may lead to features that are different from other departments in terms of work organization, team communication, patient care patterns, and professional role identity. For another example, the maturity of the mainstream age group and room for subsequent development also influence the priority of the hospital's management strategy and staff training. Finally, the mixture of senior and young staff provides a diversified force to promote healthcare quality improvement and innovative mechanisms. These findings provide an important reference for understanding the professional behavior of healthcare workers and formulating talent motivation and training policies, which lays the foundation for better support and management of the healthcare workers.

6.1.2 Hypothesis testing results

In the hypothesis testing part, this study explores the relationship between several core variables. The results show that there is a significant positive correlation between work engagement and work performance, namely, when healthcare workers demonstrate high levels of work engagement, they tend to achieve better performance. This is consistent with the findings of existing literature that work engagement, as a positive psychological state and behavioral tendency, is generally regarded as an important factor in enhancing employee performance, innovative behavior, and job satisfaction. Work performance is closely related to work engagement (Souza et al., 2020). The higher the work engagement of healthcare workers, the better their work performance. When healthcare workers present a high level of work

engagement, they tend to put more energy and effort into their work, become willing to take on challenging tasks, and hold a sense of pride and enthusiasm for their work. The enthusiasm and effort towards work effectively promotes healthcare workers' task completion, which in turn promotes their work performance (Wu et al., 2017). This study further reveals that in the high-pressure and high-stigma context of mental health, the facilitating effect of work engagement on work performance may be amplified by occupational characteristics. For example, healthcare workers have high emotional labor demands, and their engagement behaviors (such as patient communication and proactive caring) may directly enhance patient satisfaction.

The results also show that perceived dirty work has a significant negative effect on work engagement. The negative impact of perceived dirty work on work engagement validates the core argument of the Dirty Work theory that social stigmatization leads to a reduction in employees' sense of self-worth and a lack of meaning in their work (Y. Zhou et al., 2020). When healthcare workers perceive that their work lacks dignity or is not respected, their work engagement may decrease. Such perceptions usually stem from social biases against mental health professions, and involve "dirty traits" at the physical, social, moral, or emotional levels. These perceptions can generate psychological discomfort, and in turn affect work engagement and reduce organizational efficiency. Research findings suggest that perceived dirty work often brings negative consequences, such as triggering stress (Baran et al., 2012), generating negative emotions such as shame and sadness (Rabelo & Mahalingam, 2019), and decreasing the meaning of work (Shantz & Booth, 2014). However, it has also been concluded that perceived dirty work can help employees improve cohesiveness and increase work engagement (Tracy & Scott, 2006).

Notably, this study further explores the moderating effect of occupational safety on the relationship between perceived dirty work and work engagement. It is found that a high level of occupational safety reinforces the negative impact of perceived dirty work on work engagement. Contrary to the common assumption that resources buffer stress, this finding highlights the specificity of mental healthcare (D. D. Feng et al., 2008). In a relatively safe and stable organizational environment, healthcare workers have fewer concerns about basic survival and career paths, and thus may be more sensitive to perceived bias or discrimination against their profession. When they think they no longer need to worry about making a living and getting promoted, they will pay more attention to "non-decent" social appraisals, thus generating stronger psychological conflicts and frustrations (C. Wen et al., 2014). At this time, the "safe but shameful" state will form a psychological contradiction, which will further dampen the enthusiasm of healthcare workers (Y. L. Tu, 2019). This finding breaks the previous

unidirectional thinking that "high resources will inevitably bring stress reduction", and suggests that organizational administrator should be cautious about the interaction between occupational safety and work engagement. It is necessary to combine the industry attributes and employees' psychological needs to develop more targeted support strategies.

Another important research finding concerns the negative impact of red tape on work engagement. In the healthcare industry, red tape is often characterized by lengthy approval processes, cumbersome paperwork, and multiple administrations, which can consume a great deal of healthcare workers' time and energy and interfere with their core medical work (Pandey & Scott, 2002). In mental health centers, healthcare workers often have to deal with multiple regulatory agencies and normative documents, and some of the duplicative or unnecessary processes may make them feel deeply overwhelmed in responding to patient needs and emergencies. Emotionally, complicated rules and regulations can create a sense of constraint and powerlessness, which reduces work interest and motivation and may lead to job burnout and psychological stress (Cooke et al., 2019). Red tape affects healthcare workers' work experience in many ways. First, red tape increases the workload of healthcare workers, urging them to spend additional time and effort to follow a series of complex procedures on top of their core tasks, thereby increasing fatigue and frustration and reducing their overall work engagement. Second, red tape may interfere with the work procedures of healthcare workers, making it difficult for them to focus on delivering high-quality healthcare services, which in turn affects job satisfaction. Third, red tape may also trigger stress and anxiety among healthcare workers, which will further affect their work performance and job commitment. Therefore, streamlining processes and reducing red tape is critical to improving healthcare workers' engagement and performance. Through moderating effects analysis, we find that job crafting can mitigate this negative effect. For example, job crafting can restore a sense of control through adjustment of task structure or cognitive restructuring (such as viewing cumbersome processes as an opportunity for systematic learning). It indicates that individual initiative (such as proactive optimization of process) is key to counteracting organizational deficits in healthcare systems with high institutional rigidity, and this finding provides new ideas for "bottom-up" management interventions.

Further analysis reveals the moderating role played by organizational learning climate and occupational safety in the relationship between perceived dirty work and work engagement. To be specific, the negative impact of perceived dirty work on work engagement will be attenuated in the presence of a relatively strong organizational learning climate. This may be due to the fact that a positive learning environment provides healthcare workers with the necessary growth

and development opportunities to help them better cope with and adapt to the negative emotions induced by perceived dirty work, so that they can maintain a relatively high level of work engagement. Reinforcement of the organizational learning climate encourages healthcare workers to improve their knowledge and skills through continuous learning, which promotes knowledge sharing and teamwork and mitigates the negative effects of perceived dirty work (Tasa et al., 2007; J. S. Yang & Chen, 2005). Its buffering effect validates the social support theory, namely, learning organizations help employees cope with stigmatizing stress through knowledge sharing and psychological empowerment (Cobb, 1976). Based on the validation of the social support theory, this study further explains the specific mechanism: the learning climate may offset social prejudice by enhancing healthcare workers' sense of professional authority (such as participating in scholarly exchanges), rather than simply provide emotional support. In contrast, when healthcare workers perceive relatively high occupational safety, the negative impact of perceived dirty work on work engagement will be relatively strong. Occupational safety provides healthcare workers with stable psychological expectations, and at this time the healthcare workers are more sensitive to stigmatization. It suggests that occupational safety and perceived dirty work have an important impact on healthcare workers' work engagement, and healthcare workers have high work engagement only when their perceived dirty work is low and occupational safety is high.

Finally, it is found that job crafting plays a significant moderating role between red tape and work engagement. This is consistent with previous research findings (C. Chen et al., 2014; Vogt et al., 2015) that employee job crafting behavior has a significant positive correlation with positive psychological motivation and high work engagement. In other words, employees increase their autonomy by reshaping task boundaries or relationship networks to counteract the negative effects of red tape. If healthcare workers are able to adjust their work tasks and responsibilities through job crafting, the negative impact of red tape on work engagement will be reduced (Jiang et al., 2023). Job crafting empowers healthcare workers with more autonomy and sense of control, and enables them to cope more effectively with the challenges posed by red tape, thereby increasing work engagement and performance (DeHart-Davis & Pandey, 2005). This study validates this mechanism in the field of healthcare and suggests to explore the potential role of "team crafting" (such as collaboration across departments to optimize processes).

In summary, this study systematically explores the two major "job demands" faced by healthcare workers in mental healthcare institutions, namely, perceived dirty work and red tape, and analyzes the impact of work engagement and its moderating factors (occupational safety,

organizational learning climate, and job crafting) on work performance. On the one hand, we verify the positive effect of work engagement in enhancing work performance. In other words, healthcare workers who maintain high quality and enthusiasm of work engagement in stressful and stigmatized environments usually have better clinical performance and patient feedback. On the other hand, we also find the dual negative effects of perceived dirty work and red tape, and the differential moderating paths that may be generated by three moderating variables (occupational safety, organizational learning climate, and job crafting). In particular, the double-edged sword phenomenon of occupational safety serves as a wake-up call for organizational managers, suggesting that not all resources directly buffer stress. Sometimes the presence of resources can magnify the negative effects of certain needs or stresses in specific contexts. In contrast, organizational learning climate and job crafting present more consistent positive buffering effects in this study, which reminds the hospital management staff to focus on both macro management and individual motivation. On the one hand, systematic support should be provided by creating a positive learning culture; on the other hand, employees should be guided to take the initiative to carry out job crafting to improve their autonomy, adaptability, and innovativeness.

These important findings provide new insights and ideas for future management practices and academic research in mental healthcare. As for perceived dirty work, administrators can strengthen external publicity and education to gain social understanding of and respect for mental healthcare; at the same time, they should rigorously evaluate and moderately reduce internal red tape, and promote the optimization of medical processes and the application of information technology, so as to reduce the large amount of time and energy spent by healthcare workers on administrative matters. In addition, it is necessary to pay more attention to the different effects of occupational safety at different stages and situations, and maintain the positive identification and internal motivation of healthcare workers through more targeted approaches (DeHart-Davis & Pandey, 2005). By strengthening the organizational learning climate and encouraging job crafting, hospitals or healthcare organizations can better help their employees cope with high-intensity stress and stigmatized environments, and protect and nurture the physical and mental health and professional enthusiasm of healthcare workers to the greatest extent possible while ensuring healthcare quality and patient satisfaction.

6.2 Research contribution

6.2.1 Theoretical contribution

First, this study enriches the application and connotation of the JD-R model in specific high-pressure occupational scenarios.

With healthcare workers in mental healthcare institutions as the research subjects, this study introduces the JD-R model to this particular field, which fills in the gap of insufficient research in the existing literature on work in high-pressure and high-stigmatization scenarios. Although the JD-R model has been widely validated in studies of job stress and burnout in many industries (manufacturing industry, service industry, and education industry), systematic research on the model in the segmented and highly specialized scenario of mental healthcare institutions is relatively weak. This study identifies and validates the significant impact of two types of "obstructive demands", namely perceived dirty work and red tape, in the specific context of mental healthcare. Through a combination of theoretical elaboration and empirical analysis, this study elucidates how healthcare workers' perceptions of external stigma and red tape affect their level of work engagement in high-risk and high-stigmatized work environments on the one hand; on the other hand, it also expands the boundaries of the application of the JD-R model. This study not only supplements the multivariate description of job demands in the traditional JD-R model, but also provides a feasible reference for scholars to study other fields (such as social work and elderly care) that have special needs or with high risk and high stress. At the same time, through the analysis of work engagement and its moderating factors, this study also provides new perspectives for the further promotion and application of the JD-R theory in the health service industry, and promotes its development and improvement in the practical level.

Second, this study expands the perspective and scope of research on work engagement from the perspective of specific occupational groups.

Work engagement, as an important concept in organizational behavior and human resource management, has been mostly applied to research on business management and general workforce in the past, with relatively limited attention paid to healthcare institutions, especially mental healthcare institutions (F. R. Meng & Wu, 2014). Mental healthcare workers face distinctive stressors, such as complexity of patients' conditions, high stigma due to social prejudice, and potential risks to occupational safety (J. C. Guo, 2016). These unique contexts determine that the mechanisms and pathways influencing their work engagement may differ

significantly from those of traditional corporate employees. It is from this perspective that this study explores in depth the unique mechanisms of action of perceived dirty work, red tape, and resource variables (such as organizational learning climate, occupational safety, and job crafting) in mental healthcare, which opens up a new dimension of analysis for research on work engagement. On the one hand, the study deepens the academic understanding of the differences in performance and influencing factors of work engagement across different occupational groups; on the other hand, it also reminds us that the formation path of work engagement is not static, but intertwined with multiple factors such as job position attributes, social environment, and organizational climate (Z. Y. Feng, 2024). By expanding the research scope to include mental healthcare workers, this study provides new ideas for the systematic construction of a more complete theory of work engagement, as well as more targeted guidelines for management practices in the industry.

Third, this study constructs and validates a model of "perceived dirty work and red tape-work engagement-work performance", which deepens the academic understanding of the performance of special occupational groups in complex environments.

Based on the systematic review of how perceived dirty work and red tape affect work engagement of healthcare workers, this study further examines the mediating effect of work engagement between the two factors and work performance. In addition, it introduces occupational safety, organizational learning climate and job crafting as the key moderating variables to form a more complete theoretical model. This model not only broadens the perspective of research on the relationship between work engagement and work performance, but also provides a new theoretical framework for subsequent research on how to effectively manage and improve the work environment of special occupational groups. To be specific, the findings suggest that in the high-stress and high-stigma field of mental healthcare, the negative impact of obstructive demands on work engagement and performance is particularly prominent, but certain organizational learning climate, job crafting, and reasonable occupational safety management can attenuate this negative effect to varying degrees, thus promoting healthcare workers' work engagement and work performance. This finding provides valuable empirical support for the academia to further explore the work behaviors and psychological processes of special occupational groups, and lay a theoretical and practical foundation for future discussions on perceived dirty work and red tape issues.

Fourth, the research model of work engagement proposed in this study demonstrates good theoretical explanatory power and practical guidance in the context of mental healthcare institutions. The model systematically reveals the interactive effects of job demands and

resources on work engagement. As an extension of the moderating mechanism of the JD-R model, the research model has a certain degree of theoretical generality and is suitable for explaining the integration process of individual resource mobilization and coping strategies in high emotional labor and high workload industries.

However, the practical applicability of the model still needs to be analyzed specifically in relation to contextual features. There are significant differences in resource provision, organizational management style, and policy implementation intensity in different regions, especially in primary-level organizations with relatively weak resources, where organizational support and environmental safeguard may not yet have a good foundation. Therefore, when applying the model to primary-level organizations in other cities or lower levels, the specific content and adjustment path of the resource dimension should be adjusted accordingly. For example, the occupational safety may be expressed more as "security of 'bianzhi', which means a stable career with pension and other benefits in government or government-affiliated institutions" and "basic protection", while the stimulation of an organizational learning climate depends on stronger external policy promotion and capacity building inputs.

6.2.2 Practical implications

First, it is necessary to proactively build a positive occupational image, reduce social prejudice, and enhance positive perceptions of mental healthcare work.

Based on the research finding of the significant negative impact on perceived dirty work, healthcare institutions and government departments need to work together to promote positive changes in the social environment and help the public correctly perceive and recognize the professional value and social significance of mental healthcare work (T. T. Zhang et al., 2024). Administrators can achieve this goal through the following specific measures. (1) Publicity and media utilization. Through channels such as mainstream media, self-media platforms, public service advertisements, administrators can publicize the stories of mental health workers' perseverance in work and care for patients, so as to help the public understand the real situation of mental illness and weaken the previously inappropriate prejudice and fear (H. C. Zhang et al., 2009). (2) Public participation of activities. Regular public science education lectures or mental health counseling activities are held to allow community residents, family members of patients, and potential help-seekers to have direct conversations and interactions with the healthcare workers, and feel the professionalism and warmth of the healthcare work. (3) Internal support and award. With the medical institutions, awards such as Advanced Individuals in Mental Health Services or Outstanding Medical and Nursing Teams can be set up to strengthen

the pride and recognition of the healthcare workers in their own professions by setting up role models. Through these various forms of publicity and activities, the stigmatization of mental healthcare can be effectively reduced, and the social image and self-worth of healthcare workers can be continuously improved, thus fundamentally reducing their perceived dirty work and increasing their work engagement (Fan et al., 2021).

Second, it is necessary to create a good organizational climate, with a particular focus on building and deepening an organizational learning culture.

The research results reveal the positive moderating effect of organizational learning climate on work engagement, indicating that in an environment of knowledge sharing, inquiry-friendliness, openness and tolerance, healthcare workers tend to maintain positive work engagement. On this basis, healthcare institutions should strongly advocate learning and innovation within the institutions to form a virtuous cycle of continuous improvement and self-enhancement. (1) Learning incentives. Employees who learn actively and take the initiative to share knowledge and experience should be given material or spiritual rewards, such as holding the "best case sharing sessions" or setting up a "special fund for technological innovation", so that employees can actually feel the organization's support of learning (X. L. Cao, 2018). (2) Cross-team collaboration. Different departments or teams are encouraged to carry out business discussions and project research to break down departmental barriers, improve patient diagnosis and treatment plans from a multidisciplinary perspective, and thus enhance the overall medical level. (3) Mentorship and peer support. Senior mentors are staffed for new or young healthcare workers to guide them to quickly adapt to their duties and get familiar with the team culture. Internal mutual support groups or workshops can also be set up to encourage employees to form an atmosphere of joint learning and cooperation in their work. By building an in-depth learning organization, healthcare workers can continue to accumulate professional knowledge, improve their self-efficacy, and gain support and understanding at the team and organizational levels, so that they can maintain a high level of work engagement and a stable emotional state in the face of high pressure and stigmatization challenges (Sheng et al., 2024).

Third, it is necessary to promote job crafting and employee development, and stimulate healthcare workers' self-management and proactive innovation capabilities.

The study verifies that job crafting can effectively mitigate the negative impact of red tape on work engagement. It suggests that when employees have autonomy and creativity, they can offset possible system or process rigidity at the organizational level by optimizing workflow and expanding the meaning of their work. On this basis, healthcare institution administrators can adopt the following approaches. (1) Authorized management. Moderate decentralization

allows healthcare workers to have a certain degree of decision-making power in clinical work (L. Chen, 2016). For example, in terms of nursing care, nurses can be allowed to flexibly adjust the nursing plan and work steps according to the patient conditions and personal expertise. (2) Task design and optimization. Healthcare workers are encouraged to initiate work improvement projects or submit process reengineering suggestions to transform the wisdom of the front-line staff into realistic initiatives to simplify processes and improve performance; at the same time, resources and supporting policies can be provided for these improvements, so that the reform measures can be truly implemented. (3) Role and task expansion. Under the premise of respecting the expertise of healthcare workers, the healthcare institutions can provide them with more opportunities to participate in cross-departmental collaboration, scientific research projects and administration work. On the one hand, it expands the room for personal career development, and on the other hand, it allows them to have a more comprehensive perspective and more resources when dealing with red tape. These initiatives not only enhance the sense of autonomy and control of healthcare workers, but also further stimulate their intrinsic motivation, which provides a constant source of energy for organizational innovation and team development.

Fourth, it is necessary to strengthen occupational safety management, and effectively protect the rights and interests and physical and mental health of the healthcare workers.

It is found in the empirical research that occupational safety exerts a significant impact on work engagement, especially in the field of mental healthcare, where fluctuations in patients' moods or conditions may always threaten the physical and psychological safety of the healthcare workers. Administrators should consider "safeguarding the occupational safety of healthcare workers" as a strategic task and implement it through the following measures (J. Feng & Yang, 2004). (1) Upgrading of the security system. The healthcare institutions should equip themselves with well-functioned monitoring and access control systems, assign more security personnel to patrol key areas, and establish a well-designed emergency plan and alarm mechanism so that healthcare workers can receive timely and effective protection in case of emergencies. (2) Systematic safety training. The healthcare institutions should regularly organize self-protection courses and crisis intervention drills for healthcare workers, such as restraint skills training and conflict communication skills courses, so as to enhance their ability to cope with potential violence or emergency medical situations. (3) Psychological support and care. The healthcare institutions can set up a psychological counseling room or "stress reduction room" within the institutions, and designate professional psychological counselors or supervisors to provide timely emotional support and psychological guidance for healthcare workers, so as to help them better adjust their emotions and stress. (4) Clarified system for the

protection of rights and interests. The healthcare institutions should further clarify the legitimate rights and interests of the healthcare workers and the limitation of responsibilities in the labor contract or hospital rules and regulations, so as to reduce the disputes or contradictions caused by imperfect rules and regulations. If healthcare workers encounter injuries or legal disputes in their practice, there should be sound follow-up protection and legal aid channels to maintain their trust in occupational safety and the organization.

Through these multi-faceted protection measures, healthcare institutions can significantly enhance the occupational safety of healthcare workers, which in turn enhances their professional identity and work engagement, thus ensuring that patients receive continuous and stable high-quality care and treatment services.

6.3 Research limitations and suggestions for future research

6.3.1 Research limitations

First, this study mainly focuses on the healthcare workers of specialized mental health hospitals in Shanghai. Although the mental health service system in Shanghai is relatively complete, with abundant resources and rapid professional development, there are differences in the level of economic development, cultural background, and distribution of medical resources among different regions, which may lead to limitations in the generalizability of the results. Mental healthcare organizations in different regions face different social perceptions, patient characteristics, and policy support. For example, underdeveloped regions may suffer from a lack of resources and lower patient awareness of mental illness, and these differences may affect the work engagement mechanisms of healthcare workers (G. Q. Luo & Fang, 2018). Taking the perceived dirty work as an example, in some regions with more conventional traditions, mental healthcare workers may face more serious occupational stigmatization (Lauber & Rössler, 2007), and the degree of influence on work engagement may be different from that in Shanghai. Therefore, it is difficult to fully apply the conclusions drawn from the samples in Shanghai alone to other regions, which restricts the generalization and application of the research results across China.

Second, the in-depth interview method and questionnaire survey method are used to collect data. Although the integration of the two methods ensures the richness and reliability of the data to a certain extent, there are still limitations. In the future, other methods such as the experimental method can be adopted to explore the dynamic relationship between variables and

deepen the comprehensive understanding of the work engagement mechanism. In addition, cross-sectional design is difficult to capture dynamic changes in variables, as perceived stigmatization may fluctuate in response to policy advocacy or social events. Longitudinal research can be used in the future to reveal causal chain.

6.3.2 Suggestions for future research

First, the research sample and context can be expanded. The samples selected in this research are the healthcare workers in specialized mental health hospitals in Shanghai, and researchers can expand the scope of samples in subsequent research. Due to the different economic, cultural, and medical resources in different regions, there are differences in the work engagement mechanisms of healthcare workers. Researchers can compare different regions to construct a more universal theoretical model. Considering the different work content and career development opportunities of healthcare workers in mental healthcare organizations of different scales and levels, large-scale specialized hospitals and primary-level mental healthcare service organizations, the factors and mechanisms influencing their work engagement are also different. Studying these differences can provide precise strategies for the management of different healthcare organizations.

Second, research on the relationship between variables can be deepened. The relationships between the variables in this research are complex and can be explored in depth in the future. As for the perceived dirty work, although it is known to have a negative impact on work engagement, the specific path of influence and boundary conditions are unknown. We suggest to explore the differences in the perceived dirty work among healthcare workers in different departments and years of working experience as well as the different impacts on work engagement. Organizational learning climate is found to have a positive impact on work engagement, but there is insufficient research on the influencing mechanism of the special work scenarios in mental health institutions. Subsequent research can focus on how organizational learning climate promotes knowledge sharing and innovation, and enhances healthcare workers' work performance and work engagement (T. N. Wang et al., 2009).

Third, focus can be put on dynamic change and intervention research. The cross-sectional design of this research is difficult to reflect the dynamic changes of variables. In the future, longitudinal studies can be conducted to track the changes in variables such as healthcare workers' work engagement, job demands, and job resources over time, and understand the dynamic evolution of the work engagement mechanism over the course of a career. For example, the changes in the factors influencing work engagement of new recruits and senior healthcare

workers can be studied to provide strategies for management at different stages of career development. Based on the research findings, targeted interventions can be developed and the effects can be evaluated. Training courses that are designed to enhance healthcare workers' job crafting ability can be designed to observe the impact on work engagement and work performance.

Fourth, multidisciplinary theories and methods can be integrated. Although the JD-R model is adopted in this study, more theories can be integrated to explore the mechanism of work engagement. For example, the social identity theory can be adopted to explore the role of healthcare workers' professional identity in work engagement, and analyze how to improve work engagement by enhancing professional identity (Islam, 2014). Big data analysis, neuroscience and other methods can be adopted to supplement the existing research methods. Big data can be used to collect data on healthcare workers' work behavior, so as to explore potential influencing factors and patterns. Neuroscience techniques, such as functional near-infrared spectroscopy (fNIRS), can be used to study the brain activities of healthcare workers when they are engaged in their work, so as to reveal the mechanism of work engagement at the physiological level and provide a new perspective for research in this field.

6.4 Conclusion

At present, the growing social needs for mental health services call for higher requirements on mental health institutions. Healthcare workers need to not only provide high quality medical services, but also cope with the increasingly complex working environment and the ever-changing work requirements. In this context, the work engagement and work performance of healthcare workers not only affects their personal career development, but also has a direct impact on the service quality of healthcare organizations and patient treatment outcomes. Particularly in the specific field of mental healthcare, the problems of perceived dirty work and red tape faced by healthcare workers may be more prominent. How to alleviate these problems through effective management strategies is an issue that needs to be urgently addressed in current research.

Based on the JD-R model, this research explores the effects of factors such as perceived dirty work and red tape on work engagement and work performance of healthcare workers in mental health institutions. Through methods such as in-depth interview and questionnaire survey, extensive qualitative and quantitative data have been collected. Through in-depth interviews with healthcare workers, we are able to gain an in-depth understanding of the

perceived dirty work and red tape faced by them in their work. For example, some healthcare workers mention that they often encounter incomprehension and discrimination when communicating with patients and their families in the context of social prejudice against mental illnesses, and such external attitudes lead to perceived dirty work in their hearts, which affects their work enthusiasm and engagement. At the same time, cumbersome administrative procedures and excessive paperwork are regarded as red tape, which takes up a lot of time and energy of healthcare workers, resulting in their inability to fully devote themselves to patient treatment and care. It fully reflects the negative impact of perceived dirty work and red tape on work engagement, which is consistent with the qualitative findings of the impact of work environment factors on employees' psychological state and work behaviors in previous studies (Gardner & Ryan, 2020). In the quantitative study, the questionnaire survey method is adopted to collect data for statistical analysis. The results show a significant positive correlation between work engagement and work performance, which is consistent with the quantitative findings of numerous previous studies on the positive facilitating effect of work engagement on employee performance (Schaufeli, 2003). The negative effects of perceived dirty work and red tape on work engagement are also statistically significant, which further validates the finding of the qualitative study that these unfavorable work factors can diminish work engagement of the healthcare workers. In addition, the moderating role of organizational learning climate and occupational safety in the relationship between perceived dirty work and work engagement, and the moderating role of job crafting in the relationship between red tape and work engagement are also confirmed by quantitative analysis. It suggests that when organizations provide a good learning climate and occupational safety, the negative effects brought by perceived dirty work can be alleviated to a certain extent, and the healthcare workers can be motivated to maintain a high level of work engagement. Reasonable job crafting strategies can help healthcare workers cope with the problem of red tape and reduce the interference of their work engagement, which is consistent with the results of relevant literature on the moderating effect of organizational support and personal coping strategies in work situations. In summary, this study comprehensively reveals the mechanism by which perceived dirty work and red tape affect the work engagement and work performance of mental healthcare workers through systematic qualitative and quantitative research methods, and confirms the moderating roles of factors such as the organizational learning climate, occupational safety, and job crafting.

The findings provide a new empirical basis for understanding the negative impact of perceived dirty work and red tape on healthcare workers' work performance, and shed further light on the critical role of organizational support and individual coping mechanisms.

The academic contributions of this research are as follows. It analyzes the mechanism of work engagement of healthcare workers in mental healthcare institutions in depth based on the JD-R model, which expands the scope of application of the model. It expands the perspective of research on work engagement to special occupational groups of mental healthcare workers, which fills the research gap. A preliminary model of the mechanisms by which perceived dirty work and red tape affect the work engagement and work performance of mental healthcare workers has been developed through empirical research.

In terms of management practice, the contributions of this research include enhancing positive perceptions of healthcare workers through publicity campaigns, creating a positive organizational learning climate, encouraging job crafting for employee development, and strengthening occupational safety management to protect the rights and interests of healthcare workers. These strategies aim to reduce perceived dirty work and improve work engagement and performance so that patients can receive healthcare services with better quality.

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Annex A: Interview Outline for Work Engagement of Healthcare Workers in Mental Health Institutions

Please answer the following questions based on what you know about yourself, your colleagues, and the current situation of your organization:

1. What is your current position and title? What are your specific responsibilities?

2. Please talk about your feelings about working in a mental healthcare organization? How do you understand the particularity of the work of mental health workers (in terms of service recipients and professional requirements)?

3. What are the biggest problems and difficulties encountered in your work? How do you solve and cope with them?

4. In the process of solving problems and overcoming difficulties, what are the facilitating or hindering factors that may influence your intrinsic motivation? Are there some specific examples?

5. What do you think about the work engagement of healthcare workers in mental health institutions? What is the level of work engagement of the healthcare workers?

6. Does the organization have incentives to improve individual work engagement? How effective are they? Give us some examples.

7. What are the current dilemmas facing work engagement incentives? What are the influencing factors that constrain the effectiveness of work engagement incentives for healthcare workers?

8. How do the incentives and constraints related to work engagement affect the changes in individual work perceptions, emotions and intentions in their work?

9. When you have a high sense of job identity (sufficient intrinsic motivation), what factors still hinder your work engagement?

10. What are the factors that drive healthcare workers to be actively engaged in their work? What factors motivate you to be engaged in your work when you are not emotionally motivated?

11. Are there differences in the work engagement of healthcare workers in different job positions? What factors influence these differences (leadership or organizational factors)?

12. If you were to develop or optimize incentives for work engagement of the healthcare workers in mental health institutions, how would you do it?

13. Do you have any suggestions for incentivizing work engagement among healthcare workers in mental health institutions?

Annex B: Survey Questionnaire for Leaders

Dear Sir/Madam:

First of all, we would like to express our heartfelt gratitude for your participation in this survey. The purpose of this questionnaire is to explore the work behavior of healthcare workers, so as to provide a basis for improvement of management.

All the data of this survey will be used for scientific research only, and the information will be kept **strictly confidential**. Only the comprehensive data will be presented in the results, and the survey data will never be submitted to your department or higher authorities. **No one in your organization will see the content of this questionnaire**.

1. Please **read carefully** and **answer all the questions according to the actual situation**. Some of the questions may seem repetitive, but they have a substantial effect, so please read them carefully. 2. Please **complete the questionnaire independently**. There are no absolute answers to the questions in the questionnaire and there is no right or wrong answer, you only need to answer truthfully according to your personal situation. 3. We will strictly **protect your privacy**. 4. There is only **one answer** for each question (**multiple answers and omissions will be considered as invalid questionnaires**), so please show as much differentiation as possible when scoring the questions.

Note: After you complete this questionnaire, please check it again to ensure that all question have been answered.

August 2023

Please evaluate the work performance of_____

I. To what extent do the descriptions in the following items correspond to the actual performance of the subordinates you lead? Please tick the corresponding number.

Strongly disagree	**Disagree**	**Somewhat disagree**	**Neither agree or disagree**	**Somewhat agree**	**Agree**	**Strongly agree**
1	**2**	**3**	**4**	**5**	**6**	**7**

1. He/she takes the initiative to find better ways to accomplish core tasks.	1	2	3	4	5	6	7
2. He/she proposes ideas to improve the way core tasks are accomplished.	1	2	3	4	5	6	7
3. He/she has changed the way to accomplish core tasks.	1	2	3	4	5	6	7

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

4. He/she suggests ways to make your department work more effectively.	1	2	3	4	5	6	7
5. He/she develops new and improved ways to help your department better perform its tasks.	1	2	3	4	5	6	7
6. He/she has improved the way your department works.	1	2	3	4	5	6	7
7. He/she makes recommendations to improve the overall efficiency of the organization (e.g., proposes changes in administrative procedures).	1	2	3	4	5	6	7
8. He/she is involved in changes that improve the overall efficiency of the organization.	1	2	3	4	5	6	7
9. He/she came up with ways to improve efficiency within the organization.	1	2	3	4	5	6	7

II. To what extent do the descriptions in the following items correspond to the actual performance of the subordinates you lead? Please tick the corresponding number.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. He/she is able to identify the patient's problem in a timely manner.	1	2	3	4	5	6	7
2. He/she performs daily tasks on time.	1	2	3	4	5	6	7
3. He/she modifies and improves the work process.	1	2	3	4	5	6	7
4. He/she is proficient in the use of tools and/or equipment required to carry out his/her work.	1	2	3	4	5	6	7
5. He/she is able to perform daily tasks proficiently.	1	2	3	4	5	6	7
6. His/her overall work performance is satisfactory.	1	2	3	4	5	6	7
7. He/she appreciates colleagues when they succeed.	1	2	3	4	5	6	7
8. He/she supports or encourages colleagues with personal problems.	1	2	3	4	5	6	7
9. He/she communicates with coworkers before taking actions that may affect them.	1	2	3	4	5	6	7
10. He/she often says things that make people feel good about themselves or their work group.	1	2	3	4	5	6	7
11. He/she encourages others to overcome their differences and get along well with each other.	1	2	3	4	5	6	7
12. He/she treats others fairly.	1	2	3	4	5	6	7
13. He/she helps others even when not asked to do so.	1	2	3	4	5	6	7

III. To what extent do the descriptions in the following items correspond to the actual performance of the subordinates you lead? Please tick the corresponding number.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. He/she does not fully achieve the expected level of performance and does not meet expectations in terms of goal achievement.	1	2	3	4	5	6	7
2. He/she needs improvement in order to be able to reach his/her goals in the next operational period.	1	2	3	4	5	6	7
3. Generally, he/she always meets his/her goals at the appropriate level, although some goals are not accomplished as required.	1	2	3	4	5	6	7
4. He/she tends to demonstrate a high level of performance that exceeds expectations.	1	2	3	4	5	6	7
5. He/she accomplishes his/her goals efficiently and effectively	1	2	3	4	5	6	7
6. He/she consistently and significantly exceeds standard performance.	1	2	3	4	5	6	7
7. He/she has achieved much more than what is actually required of him/her in his/her job.	1	2	3	4	5	6	7
8. He/she really stands out and clearly and consistently demonstrates a high level of quality and quantity of work that is considered outstanding by others.	1	2	3	4	5	6	7
9. In the past two years, the department (wards) has developed and introduced new treatment techniques or new service items.	1	2	3	4	5	6	7
10. Our department (wards) has a competitive advantage over other hospitals in introducing differentiated services.	1	2	3	4	5	6	7

IV. To what extent do the descriptions in the following items correspond to the actual performance of the subordinates you lead? Please tick the corresponding number.

He/she is ready to take over the next-level responsibilities within his/her department (wards)	No 0	Yes 1

Part Two: Basic Information

The following part is a survey of basic personal information. Please fill in the blanks or tick the appropriate serial number.

1. Your gender: (1) Male (2) Female

2. Your age: years old

3. Your position:

4. Your length of service: (1) Less than 5 years (2) 5-10 years (3) 11-15 years (4) 15-20years (5) More than 20 years

5. Your educational background: (1) Junior college graduate and below (2) Bachelor (3) Master (4) Doctor and above

Thank you very much for your participation in this survey! Your participation is extremely important to the entire research!

<u>The best answers reflect what respondents really think without falsification.</u>

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Annex C: Survey Questionnaire on the Work Behavior of the Healthcare Workers

Dear Sir/Madam:

First of all, we would like to express our heartfelt gratitude for your participation in this survey. The purpose of this questionnaire is to explore the work behavior of healthcare workers, so as to provide a basis for improvement of management.

All the data of this survey will be used for scientific research only, and the information will be kept **strictly confidential**. Only the comprehensive data will be presented in the results, and the survey data will never be submitted to your department (wards) or higher departments (wards). **No one in your organization, including your leaders, subordinates, and colleagues, will see the content of this questionnaire**.

1. Please **read carefully** and **answer all the questions according to the actual situation**. Some of the questions may seem repetitive, but they have a substantial effect, so please read them carefully. 2. Please **complete the questionnaire independently**. There are no absolute answers to the questions in the questionnaire and there is no right or wrong answer, you only need to answer truthfully according to your personal situation. 3. We will strictly **protect your privacy**. 4. There is only **one answer** for each question (**multiple answers and omissions will be considered as invalid questionnaires**), so please show as much differentiation as possible when scoring the questions.

Note: After you complete this questionnaire, please check it again to ensure that all question have been answered.

August 2023

I. Please tick the corresponding number according to what you really think.

Strongly disagree	**Disagree**	**Somewhat disagree**	**Neither agree or disagree**	**Somewhat agree**	**Agree**	**Strongly agree**
1	**2**	**3**	**4**	**5**	**6**	**7**

1.	I will greet the patient in a way that makes him feel comfortable.	1	2	3	4	5	6	7
2.	I treat my patients with respect.	1	2	3	4	5	6	7
3.	I am able to show interest in my patients' ideas about health.	1	2	3	4	5	6	7
4.	I am able to understand the patients' main health problems.	1	2	3	4	5	6	7
5.	I am attentive to my patients (I will watch them and listen to them carefully).	1	2	3	4	5	6	7
6.	I will let the patient talk without being disturbed.	1	2	3	4	5	6	7
7.	I give the patient a lot of information he wants.	1	2	3	4	5	6	7
8.	I am able to talk to patients in a way they can understand.	1	2	3	4	5	6	7
9.	I will double-check that the patient understands what I am saying in my communication.	1	2	3	4	5	6	7

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

10. I will encourage patients to ask questions.	1	2	3	4	5	6	7
11. I will involve the patient in as many decisions as possible.	1	2	3	4	5	6	7
12. I will discuss the subsequent medical steps with the patient, including any follow-up plans.	1	2	3	4	5	6	7
13. I show care and concern for my patients.	1	2	3	4	5	6	7
14. I will spend appropriate time with my patients.	1	2	3	4	5	6	7

II. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. I feel exhausted.	1	2	3	4	5	6	7
2. I cannot focus right now.	1	2	3	4	5	6	7
3. Now I have to work really hard to focus on something.	1	2	3	4	5	6	7
4. I don't have enough energy.	1	2	3	4	5	6	7
5. I feel like I have no willpower.	1	2	3	4	5	6	7
6. I know what I am supposed to do.	1	2	3	4	5	6	7
7. I am clear about the goals and objectives of my work.	1	2	3	4	5	6	7
8. I am aware of the relationship between my work and the overall objectives of the department (wards).	1	2	3	4	5	6	7
9. I am clear about the expected outcome of my work.	1	2	3	4	5	6	7
10. I know exactly what aspects of my work will be evaluated positively.	1	2	3	4	5	6	7
11. I can achieve my career goals in my current organization.	1	2	3	4	5	6	7
12. I can grow and develop in my current organization.	1	2	3	4	5	6	7

III. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. I am passionate about my job.	1	2	3	4	5	6	7
2. I enjoy doing my job more than anything else.	1	2	3	4	5	6	7
3. Doing what I do gives me great satisfaction.	1	2	3	4	5	6	7
4. I can sacrifice other things for my career.	1	2	3	4	5	6	7
5. Whenever I describe who I am to people, the first thing I usually think of is my profession.	1	2	3	4	5	6	7
6. I will stick with my chosen profession, even if I have to face a lot of difficulties.	1	2	3	4	5	6	7
7. My career will always be a part of my life.	1	2	3	4	5	6	7
8. I feel a sense of purpose in my career.	1	2	3	4	5	6	7
9. In a way, I have always had my work inside me.	1	2	3	4	5	6	7
10. Even when I am not working, I often think about my work.	1	2	3	4	5	6	7
11. My current career makes my life worth living.	1	2	3	4	5	6	7
12. Being in my profession touches my heart deeply and brings me joy.	1	2	3	4	5	6	7

IV. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. The work is of great importance to me.	1	2	3	4	5	6	7
2. Work is very important to me.	1	2	3	4	5	6	7
3. My work activities are of great personal significance to me.	1	2	3	4	5	6	7
4. I am confident that I can get the job done.	1	2	3	4	5	6	7
5. I am capable of performing my job duties.	1	2	3	4	5	6	7
6. I have the necessary skills to perform my job.	1	2	3	4	5	6	7
7. I have a lot of autonomy in deciding how I work.	1	2	3	4	5	6	7
8. I can decide my own work schedule.	1	2	3	4	5	6	7
9. I can decide and choose my working methods independently.	1	2	3	4	5	6	7
10. I play a pivotal role in what goes on in the department (wards).	1	2	3	4	5	6	7
11. I have relatively much authority in the department (wards).	1	2	3	4	5	6	7
12. I have a strong influence in the department (wards).	1	2	3	4	5	6	7

V. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. I believe that it is useful to have a variety of opinions.	1	2	3	4	5	6	7
2. I can understand that there will always be different views/opinions on certain issues.	1	2	3	4	5	6	7
3. I can recognize the validity of many different points of view.	1	2	3	4	5	6	7
4. I try to look at things from as many angles as possible.	1	2	3	4	5	6	7
5. I do not believe there is a clear-cut good or bad, right or wrong way of doing things.	1	2	3	4	5	6	7
6. I am good at accepting different points of view on the same topic.	1	2	3	4	5	6	7
7. I believe in finding ways to balance the views of all parties at the same time in decision-making.	1	2	3	4	5	6	7
8. When there are different perspectives on a topic, I often focus on what the different perspectives have in common.	1	2	3	4	5	6	7
9. I can identify the correlation between seemingly conflicting points of view.	1	2	3	4	5	6	7
10. I will integrate various (and sometimes conflicting) perspectives to come up with new solutions.	1	2	3	4	5	6	7
11. I am inclined to propose new solutions that can cover the different points of view of each person.	1	2	3	4	5	6	7

VI. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. The incentive system in my department (wards) makes everyone passionate about innovation.	1	2	3	4	5	6	7
2. Leaders in my department (wards) are personally involved in promoting innovation.	1	2	3	4	5	6	7
3. Colleagues in my department (wards) often communicate and discuss issues at work with each other.	1	2	3	4	5	6	7
4. Leaders in my department (wards) encourage and support innovative work ideas.	1	2	3	4	5	6	7
5. My department (wards) can provide sufficient resources to support my innovative work.	1	2	3	4	5	6	7
6. My department (wards) encourages new approaches to problem solving.	1	2	3	4	5	6	7

VII. Please consider the overall applicability of each question item to your work and tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. Most people do not want anything to do with what I do.	1	2	3	4	5	6	7
2. Few people would be proud to have a job like mine.	1	2	3	4	5	6	7
3. Most people would resent or loathe what I do for a living.	1	2	3	4	5	6	7
4. People in my profession have been demeaned.	1	2	3	4	5	6	7
5. People may not respect me as much because of my profession.	1	2	3	4	5	6	7

VIII. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

The following question items explores how you feel about the procedures of reaching outcomes (such as performance evaluations and rewards).								
1. In these procedures, I am able to express my views and feelings.	1	2	3	4	5	6	7
2. I can influence the outcome of these procedures.	1	2	3	4	5	6	7
3. These procedures are consistently applied.	1	2	3	4	5	6	7
4. These procedures are unbiased.	1	2	3	4	5	6	7
5. These procedures are based on accurate information.	1	2	3	4	5	6	7
6. I have the right to appeal the outcomes of these procedures.	1	2	3	4	5	6	7
7. These procedures uphold ethical and moral standards.	1	2	3	4	5	6	7
The following question items explores how you feel about the outcomes.								
8. The outcome I get reflects the efforts I put into my work.	1	2	3	4	5	6	7
9. I get an outcome that matches the work I have accomplished.	1	2	3	4	5	6	7
10. I get an outcome that reflects my contribution to the organization.	1	2	3	4	5	6	7
11. Given my performance, the outcomes I get are reasonable.	1	2	3	4	5	6	7

The following question items explores how you feel about the person formulating the procedures.							
12. (He/she) treats me in a polite manner.	1	2	3	4	5	6	7
13. (He/she) treats me with dignity.	1	2	3	4	5	6	7
14. (He/she) treats me with respect.	1	2	3	4	5	6	7
15. (He/she) avoids inappropriate remarks or comments.	1	2	3	4	5	6	7
16. (He/she) demonstrates candor in his/her communication with me.	1	2	3	4	5	6	7
17. (He/she) clearly explains the procedures.	1	2	3	4	5	6	7
18. (His/her) explanation of the procedures is reasonable.	1	2	3	4	5	6	7
19. (He/she) communicates details to me in a timely manner.	1	2	3	4	5	6	7
20. (He/she) adapts (his/her) communication style to specific individual needs.	1	2	3	4	5	6	7

IX. Please tick the corresponding number according to what you really think.

Strongly disagree	**Disagree**	**Somewhat disagree**	**Neither agree or disagree**	**Somewhat agree**	**Agree**	**Strongly agree**
1	**2**	**3**	**4**	**5**	**6**	**7**

1. Patient's potentially aggressive behavior scares me at work.	1	2	3	4	5	6	7
2. The risk of harm from patients worries me.	1	2	3	4	5	6	7
3. The patient's unstable mental state makes me feel uneasy.	1	2	3	4	5	6	7

X. Please tick the corresponding number according to what you really think.

Strongly disagree	**Disagree**	**Somewhat disagree**	**Neither agree or disagree**	**Somewhat agree**	**Agree**	**Strongly agree**
1	**2**	**3**	**4**	**5**	**6**	**7**

Division of labor policies and procedures in my department (wards)							
1. It is a burden to me.	1	2	3	4	5	6	7
2. It is not necessary for me.	1	2	3	4	5	6	7
3. It does not work for me.	1	2	3	4	5	6	7
The rules that I have to follow at work:							
4. Have a clear use for my work activities.	1	2	3	4	5	6	7
5. Help me achieve my work goals.	1	2	3	4	5	6	7
6. Help me do my job.	1	2	3	4	5	6	7
7. Serve a useful purpose.	1	2	3	4	5	6	7
8. Put a lot of pressure on me.	1	2	3	4	5	6	7
9. Present ease of obedience and compliance.	1	2	3	4	5	6	7
10. Take a lot of time to comply with.	1	2	3	4	5	6	7
11. Cause major delays in my work.	1	2	3	4	5	6	7
12. Bring me a lot of obstacles.	1	2	3	4	5	6	7

XI. Please tick the corresponding number according to what you know about your immediate superior. An immediate superior is a leader in your department (wards) to whom you report directly.

Strongly disagree	**Disagree**	**Somewhat disagree**	**Neither agree or disagree**	**Somewhat agree**	**Agree**	**Strongly agree**
1	**2**	**3**	**4**	**5**	**6**	**7**

My immediate superior:							
1. Is ready to listen to my new ideas.	1	2	3	4	5	6	7

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

2. Focuses on new opportunities to improve workflow.	1	2	3	4	5	6	7
3. Are willing to discuss expected goals and innovative ways to achieve them.	1	2	3	4	5	6	7
4. I can consult with my immediate superior about the problem.	1	2	3	4	5	6	7
5. Can assist subordinates at all times.	1	2	3	4	5	6	7
6. My immediate superior is able to answer my professional questions when I want to consult with him.	1	2	3	4	5	6	7
7. Can be prepared to listen to my request.	1	2	3	4	5	6	7
8. Encourages me to contact him/her about emerging issues.	1	2	3	4	5	6	7
9. I can discuss emerging issues with my immediate superior.	1	2	3	4	5	6	7

XII. How often do you adopt the following behaviors in practice? Please tick the corresponding number according to what you really think.

Never	Rarely (several times a year or less)	Sometimes (several times a month)	Often (once a week)	Frequently (several times a week)	Always
1	2	3	4	5	6

1. I will introduce new ways and means to improve my work.	1	2	3	4	5	6
2. I change the scope or type of my work assignments based on the practical situation at the time the work is completed.	1	2	3	4	5	6
3. I propose new work assignments that better match my professional skills or personal interests.	1	2	3	4	5	6
4. I will choose to take on extra tasks at work if necessary.	1	2	3	4	5	6
5. I will prioritize tasks that match my professional skills or personal interests.	1	2	3	4	5	6
6. I will think about how mental health work affects my life goals.	1	2	3	4	5	6
7. I remind myself of the importance of my work to the good development of the mental health center.	1	2	3	4	5	6
8. I remind myself of the importance of my work to people in our society who have mental illness or psychological problems.	1	2	3	4	5	6
9. I reflect on the positive impact mental health work has exerted on my life.	1	2	3	4	5	6
10. I reflect on the role mental health work has played in my personal well-being.	1	2	3	4	5	6
11. I endeavor to understand and familiarize myself with my colleagues at work.	1	2	3	4	5	6
12. I organize or participate in social events related to mental health work.	1	2	3	4	5	6
13. I organize activities in the department (wards) after work (such as celebrating a colleague's birthday).	1	2	3	4	5	6
14. I offer guidance to colleagues who are new to the department, either formally or informally.	1	2	3	4	5	6
15. I make friends with colleagues at work who have similar skills or interests to me.	1	2	3	4	5	6

XIII. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

1. The work I carry out is challenging and thought provoking.	1	2	3	4	5	6	7
2. The work I carry out gives me the opportunity to practice my ideas.	1	2	3	4	5	6	7
3. The work I carry out gives me the opportunity to learn new things.	1	2	3	4	5	6	7
4. The work I carry out provides me with opportunities for personal growth and development both in my career and in my life.	1	2	3	4	5	6	7

XIV. How do you perceive the following descriptions in practical work? Please tick the corresponding number according to what you really think.

Never	Rarely (several times a year or less)	Sometimes (several times a month)	Often (once a week)	Frequently (several times a week)	Always
1	2	3	4	5	6

1. At my work, I feel bursting with energy	1	2	3	4	5	6
2. At my work, I feel strong and vigorous.	1	2	3	4	5	6
3. When I get up in the morning, I feel like going to work.	1	2	3	4	5	6
4. I am enthusiastic about mental health work.	1	2	3	4	5	6
5. Mental health work inspires me.	1	2	3	4	5	6
6. I am proud that I work in mental health.	1	2	3	4	5	6
7. I feel happy when I am working intensely.	1	2	3	4	5	6
8. I can be immersed in my work.	1	2	3	4	5	6
9. I get carried away when I'm working.	1	2	3	4	5	6

XV. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

My department (wards)								
1. Provides attractive educational learning conditions.	1	2	3	4	5	6	7
2. Provides adequate resources for my capacity development.	1	2	3	4	5	6	7
3. Employees can get the training they need.	1	2	3	4	5	6	7
4. Employees who continue to develop their professional competencies will be rewarded.	1	2	3	4	5	6	7
5. If employees continue to develop their professional competencies, they will be quickly promoted.	1	2	3	4	5	6	7
6. Employees who strive to learn new things earn appreciation and respect.	1	2	3	4	5	6	7
7. People are afraid to admit mistakes.	1	2	3	4	5	6	7
8. Employees are afraid to discuss mistakes.	1	2	3	4	5	6	7
9. Employees are afraid to openly discuss relevant issues that arise at work.	1	2	3	4	5	6	7

XVI. Please tick the corresponding number according to what you really think.

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

My department (wards):							
5. Knowledge is obtained from colleagues.	1	2	3	4	5	6	7
6. Knowledge is obtained from patients.	1	2	3	4	5	6	7
7. Knowledge is obtained from working partners.	1	2	3	4	5	6	7
8. Knowledge is shared between superiors and subordinates.	1	2	3	4	5	6	7
9. Knowledge is shared among colleagues.	1	2	3	4	5	6	7
10. Knowledge is shared with other departments (wards).	1	2	3	4	5	6	7
11. Knowledge is effectively managed for practical use.	1	2	3	4	5	6	7
12. Knowledge is effectively utilized and put into practice.	1	2	3	4	5	6	7

Part Two: Basic Information

The following part is a survey of basic personal information. Please fill in the blanks or tick the appropriate serial number.

1. Your gender: (1) Male (2) Female

2. Your age: years old

3. Your position:

4. Your length of service: (1) Less than 5 years (2) 5-10 years (3) 11-15 years (4) 15-20years (5) More than 20 years

5. Your educational background: (1) Junior college graduate and below (2) Bachelor (3) Master (4) Doctor and above

Thank you very much for your participation in this survey! Your participation is extremely important to the entire research!

The best answers reflect what respondents really think without falsification.