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The Relationships between Job Resources, Career Identity, Burnout, and Turnover
Intention among Chinese Midwives
– An Application of the Job Demands–Resources Model

WU Qiaoxuan

Doctor of Management

Supervisor:

PhD MA Shaozhuang, Associate Professor with Habilitation,
ISCTE University Institute of Lisbon

June, 2023



BUSINESS
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Marketing, Operations and General Management Department

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Abstract

Midwives in China currently face the challenge of unclear career identity due to the country's occupational policy design. This study, guided by the Job Demands-Resources (JD-R) Model, aims to investigate the relationship between job resources, career identity, burnout, and turnover intention among Chinese midwives. Furthermore, based on the Conservation of Resources (COR) theory, this study explores how emotional intelligence, leader-member exchange, and perceived organizational support moderate the relationship between job resources, career identity, and burnout.

Methodologically, two cross-sectional studies were conducted. In Study 1, 223 samples from Shenzhen were collected to test the hypothesized model, in which emotional intelligence was hypothesized as a moderator variable. In Study 2, 582 samples were collected nationwide, and in addition to the hypothesized model in Study 1, the moderating effects of leader-member exchange and perceived organizational support were examined. The findings suggest that: 1) in both studies, both career identity and burnout mediate the relationship between job resources and turnover intention; 2) in Study 2, job resources are negatively related to turnover intention through (a) career identity and (b) burnout; 3) in Study 2, emotional intelligence mitigates the positive relationship between job resources and career identity and, in both studies, the negative relationship between job resources and burnout.

This study has the following theoretical contributions: firstly, it provides support for the applicability of the JD-R Model in researching the midwives' population under China's birth policy change; secondly, this study empirically tested the paths between job resources, career identity, burnout, and turnover intention, and the moderating effect of emotional intelligence in the model; thirdly, the study expanded and enriched the COR theory. The results of this study provide policy implications for health administrative authorities to address midwife turnover and serve as the theoretical basis for midwife human resource management.

Keywords: career identity; burnout; turnover intention; emotional intelligence; job demands-resources (JD-R) model; Chinese midwives

JEL: M54, M12

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Resumo

As parteiras na China atualmente enfrentam o desafio de uma identidade de carreira pouco clara devido à política ocupacional do país. Tendo por base o Modelo *Job Demands-Resources* (JD-R), este estudo tem como objetivo analisar a relação entre os recursos de trabalho, a identidade de carreira, o burnout e a intenção de rotatividade entre as parteiras chinesas. Paralelamente, tendo por base a teoria da *Conservation of Resources* (COR), este estudo pretende analisar como a inteligência emocional, a troca líder-membro e o suporte organizacional percebido moderam a relação entre recursos de trabalho, identidade de carreira e o burnout.

Metodologicamente, foram realizados dois estudos transversais. O Estudo 1 incluiu 223 parteiras de Shenzhen para testar o modelo hipotético, no qual a inteligência emocional foi hipotetizada como variável moderadora. O Estudo 2 incluiu 582 parteiras de toda a China. Para além do modelo hipotético do Estudo 1, foram ainda analisados os efeitos moderadores da troca líder-membro e do suporte organizacional percebido. Os resultados sugerem que: 1) em ambos os estudos, a identidade de carreira e burnout medeiam a relação entre os recursos de trabalho e a intenção de rotatividade; 2) no Estudo 2, os recursos de trabalho estão negativamente relacionados com a intenção de rotatividade por meio de (a) identidade de carreira e (b) esgotamento; 3) no Estudo 2, a inteligência emocional atenua a relação positiva entre recursos de trabalho e identidade de carreira, e, em ambos os estudos, a inteligência emocional atenua a relação negativa entre recursos de trabalho e esgotamento.

Este estudo tem os seguintes contributos teóricos: em primeiro lugar, fornece suporte para a aplicabilidade do Modelo JD-R em investigações sobre a população de parteiras sob a mudança da política infantil da China; em segundo lugar, este estudo testou empiricamente as vias entre recursos de trabalho, identidade de carreira, esgotamento e intenção de rotatividade, e o efeito moderador da inteligência emocional no modelo; em terceiro lugar, o estudo ampliou e enriqueceu a teoria COR. Os resultados fornecem implicações políticas para as autoridades administrativas de saúde abordarem a rotatividade de parteira, servindo como base teórica para a gestão de recursos humanos das parteiras.

Palavras-chave: identidade de carreira; esgotamento; intenção de rotatividade; inteligência emocional; modelo job demands-resources (JD-R); parceiras chinesas

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摘 要

由于国家的职业政策要求，中国助产士目前面临着职业身份不明确的挑战。本研究以工作需求-资源（JD-R）模型为指导，旨在调查助产士的工作资源、职业认同、工作倦怠和离职意愿之间的关系。此外，本研究基于资源保护理论（COR），探讨了情绪智力、领导部署关系和组织支持感如何调节工作资源、职业认同和工作倦怠之间的关系。

本研究进行了两项横断面研究。在研究 1 中，从深圳收集了 223 个样本来测试假设的模型，其中情绪智力被假设为调节因子。在研究 2 中，在全国范围内收集了 582 个样本，除了研究 1 中的假设模型外，还考察了领导部署关系和组织支持感的调节作用。研究表明：1）职业认同和工作倦怠都在工作资源和离职意愿之间起中介作用（在两项研究中）；2）工作资源通过（a）职业认同和（b）工作倦怠与离职意愿呈负相关（研究 2）；3）情绪智力弱化了工作资源与职业认同之间的正向关系（在研究 2 中），弱化了工作资源与工作倦怠之间的负向关系（在两项研究中）。

本研究的理论贡献如下。首先，它为 JD-R 模型在研究中国生育政策变化下助产士人群的适用性提供了支持。其次，本研究实证检验了工作资源、职业认同、工作倦怠和离职意愿之间的路径，以及情绪智力在模型中的调节作用。最后，本研究扩展和丰富了 COR 理论。这项研究的结果为卫生行政当局解决助产士流动问题提供了政策启示，并为助产士人力资源管理提供了理论依据。

关键词：职业认同；工作倦怠；离职意向；情绪智力；工作需求-资源（JD-R）模型；中国助产士

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List of Abbreviations

BO = Burnout
CI = Career identity
CM = Certified Midwife
CNM = Certified Nurse-Midwife
COR = Conservation of Resources
CPM = Certified Professional Midwife
EI = Emotional intelligence
ICM = International Confederation of Midwives
JD-R = Job Demands-Resources Model
JR = Job resources
LMX = Leader-member exchange
MBI = Maslach Burnout Inventory
MBI-GS = Maslach Burnout Inventory - General Survey
NHC = National Health Commission of China
POS = Perceived Organizational support
PRC = People's Republic of China
TI = Turnover intention

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Chapter 1: Introduction

This chapter first introduces the research background, with a focus on the current status of midwifery human resources and turnover in China, the evolution of Chinese midwives, the definition and service scope of midwives, the educational/professional qualifications and certification of midwives, and the challenges and difficulties faced by midwives in China. Then, it addresses the research gap and relevant theoretical concepts. The purpose of this study and the research questions to be addressed are also presented. At the end of this chapter, the structure of the entire thesis is provided.

1.1 Research background overview

Maternal and newborn health is an important indicator for the socio-economic development and the civilization level of a city or country. Midwives are the backbone of ensuring the health of pregnant women and newborns. As an ancient profession, midwifery has been evolving with the development of humanity. According to the definition by the International Federation of Midwives, midwives are professionals who have received formal midwifery education, are qualified in the corresponding country, have successfully completed the required midwifery courses, have obtained certification or practitioner certificates, and are engaged in delivery and infant care services. The report *The State of the World's Midwifery 2021*, jointly prepared by the United Nations Population Fund, the International Federation of Midwives, and the World Health Organization (WHO), points out that midwives provide 90% of the globe's sexual, reproductive, maternal, newborn, and adolescent healthcare services, but only account for 10% of all healthcare professionals. At present, the global shortage of midwives has reached 900,000, and it is expected that by 2030, there will still be a shortage of 750,000 midwives worldwide. By comparing the average number of midwives per 10,000 people in different regions around the world in 2021, Australia was in the best position, with an average of 10 midwives per 10,000 people. In countries such as the United States and Canada, the average number of midwives per 10,000 people reached 2. The data on China was one-sided and incomplete, and it was reported that there were approximately 0.06 midwives per 10,000 people in more developed coastal areas (United Nations Population Fund, 2021). Zeng and Wang (2008) claimed that the proportion of midwives to women of childbearing age in China was 1/4 that of developed countries.

Midwives who have been trained and meet international standards can help to reduce maternal and neonatal mortality by two-thirds; the skills of midwives are not just about delivering – they make a significant contribution to the health of mothers and newborns, as well as the overall happiness of the society (Day-Stirk et al., 2014). At present, China has fully opened up its birth-control policy. Midwives, as the backbone of maternal and child healthcare, are facing various challenges. The shortage of midwives in China and midwives' career identity are issues that we should pay more attention to.

1.1.1 Shortage and turnover of midwives in China

Compared with other countries, the shortage of midwives is relatively severe in China. In the *2021 Work Report of the National Health Commission of the PRC*, it was pointed out that 183,000 midwives are insufficient for such a big country with a population of 1.4 billion. Through a survey of 31 provinces in China, D. Li et al. (2014) found that in 2011, the number of midwives per thousand people in China (including part-time midwives) was 0.05. A survey in 2017 found that there were 0.03 midwives per thousand people in China (Lu, 2017). An official report in 2020 stated that there were 183,000 midwives in China (National Health Commission of the PRC [NHC], 2020), and thus there were 0.014 midwives per thousand people. From the diachronic data of the past decade, it can be seen that the shortage of midwives is becoming increasingly severe. From a synchronic perspective, the number of midwives per thousand people in China is far lower than that in developed countries in Europe and North America, such as Sweden at 0.6, the UK at 0.59, and the United States at 0.45. The number in China is not only lower than the developed countries, but also lower than developing countries, such as India at 0.47, the Philippines at 0.45, Malaysia at 0.48, and Cambodia at 0.56. China's midwifery human resource is at a lower level than the rest of the world (Zhou et al., 2013), which goes against China's current national policy of vigorously advocating for increasing the birth rate.

A more severe problem is the high turnover rate of midwives in China. A survey found that the turnover rate of midwives is 12%-33%, and the turnover intention is 33%-66% (Jia 2012; Liu et al., 2021; Tan et al., 2014; Zhang et al., 2013). Regional surveys have found that: in Guangzhou, a developed city in southern China, the annual loss of midwives has reached 12.5% in the past three years (Wang et al., 2017); in economically underdeveloped cities in northern China, the annual loss of midwives reached 33.33% (Zuo et al., 2018); in Shandong, a province in eastern China, the loss of midwives reached 66.66% (Ma, 2019). Such shortages and losses

require great attention from society and the medical community. Research has shown that there is a correlation between the shortage of midwives and the high rate of cesarean section in China and thus calls for improving midwives' career identity and reducing their turnover rates in order to attract more midwifery talents to address the supply-demand imbalance (Hu et al., 2020a).

Zheng (2019) found that the main reasons for midwives' turnover attributed to the workload and role ambiguity due to the shortage of on-duty midwives in delivery rooms. Globally, the imbalance in midwifery human resources and midwives' high turnover rates are commonly observed in various countries and regions, and society has not given midwives enough attention and respect (National People's Congress, 2016). For example, in Australia, a shortage of midwives was announced, and a series of measures were carried out to retain midwifery talents (Hauck et al., 2012). In the UK, the most common reasons for midwives' turnover intention are personnel shortages and heavy workloads (Sandall et al., 2015). Canada's immigration policy included midwives in the category of scarce technical talents. To raise international awareness of the importance of midwives, the WHO has designated 2020 as the International Year of the Nurse and the Midwife. After the literature review, we found little research on midwifery human resources in China. The existing studies only listed the reasons for talent loss, without clear classifications or any analysis of influencing factors. Robust research in human resource management for midwives can help medical institutions to enhance talent crisis management. Through organizational security, management methods, monitoring measures, and management principles, they can create an environment that is conducive to the career development of midwives.

1.1.2 Evolution of midwifery occupation in China

1.1.2.1 Evolution of midwives in China

The earliest recorded legislation on midwives in Chinese history was the *Midwife Regulations* issued by the government of the Republic of China in 1928. The provisions stipulated midwives' qualifications and scope of practice, the approval authority for midwives' practice certification, the obligations midwives should fulfill in maternal and child care, and the punishment for improper acts in practice (M. Chen, 1996). In 1943, the government of the Republic of China officially introduced the *Midwives Law*, which underwent revisions in 1948 (Peng, 2016). The revised *Midwives Law* provided detailed regulations for midwifery practice as an independent profession and preliminarily outlined the direction of midwife education and professional development. After the establishment of the People's Republic of China (PRC), the old laws

issued by the Republic of China were abolished, and policies related to midwives were also abolished.

The Public Health Work Conference of the PRC was held in 1952, where regulations on the management of personnel in the health system were issued, including midwife-related regulations, namely, the *Interim Regulations on Medical Assistants, Pharmacists, Midwives, Nurses, and Dental Technicians* (Hou et al., 2017; Peng, 2016), which defined midwives as professional health technicians with independent professional qualifications and defined midwives' scope of responsibilities. In 1979, the Ministry of Health of the PRC promulgated the *Regulations on the Professional Titles and Promotion of Health Technicians (Trial)*, which classified midwives and medical assistants as part of medical and epidemic prevention departments, defined midwives as an independent professional position, and stipulated midwives' medical act rights (Ministry of Health of the PRC, 1979). Regarding midwives' promotion, it was stipulated that midwives could be promoted to physicians or nurse practitioners according to their actual situation. Relevant regulations can be found in the *Opinions of the Ministry of Health and Politics on Several Specific Issues Concerning the Promotion of Current Health Technicians*, issued by the national health authority. During that period of time, midwives could choose to be promoted to the professional titles of either midwives or medical assistants. Looking back at history, that was the beginning of the unclear career identity of midwives. During the reform of health institutions in 1985, the responsibilities of midwives became even more ambiguous and there were differences between different provinces and cities. The work scope of midwives was mostly included in that of nurses.

In 1993, when the reform and opening up surged, the Ministry of Health issued the *Nurse Management Measures of the People's Republic of China*, which did not provide classification and definition of the midwifery occupation, further blurring the career identity of midwives. In 1998, the *Law on Practicing Physicians of the People's Republic of China* abolished the provision that allowed midwives to choose to be promoted to professional titles of medical assistants. That completely blocked the channels for midwives to be promoted to practicing physicians and clearly marginalized the midwifery occupation, resulting in degrading midwifery capabilities (People's Government of Shaanxi Province, 1998). In 2008, the State Council issued the *Nurse Regulations* (Guo, 2008), which stipulated that midwife students must pass the national nurse qualification exams, be issued a nurse license, and be assigned to work in the delivery room. From then on, midwives were fully integrated into nurses and became part of the nursing personnel.

Chinese midwives' responsibilities and occupation positioning have undergone several

changes in the past century, transitioning from midwives to medical assistants, then back to midwives, and now to nurses. At present, midwives are included in the nursing personnel, with unclear occupation positioning and awkward professional identity.

1.1.2.2 Definition and service scope of midwives

In China, the definition of midwives is not clearly provided (Yan, 2014). Their practice location and the main scope of services are to some extent limited to the delivery room, and their responsibilities are delivering services for pregnant women during the delivery (L. Li et al., 2016). A definition of midwives was provided by the International Confederation of Midwives (ICM) in 2011 (Thomson & Kelst, 2011): a midwife is a trustworthy professional who is the best companion for women during childbirth, can provide women with care, necessary support, and health counseling services throughout pregnancy and during and after childbirth, and establishes a mutual trust relationship with pregnant women. The responsibilities of midwives are as follows: providing continuous services for pregnant and lying-in women with skills of delivery and newborn care; defending and promoting maternal and infant health from perspectives such as physiology, psychology, society, and culture. At present, the mode of continuous service led by midwives is the most common in many countries. Their services cover the whole perinatal pregnancy and childbirth process, including pregnancy, delivery, postpartum, neonatal nursing, and so forth. Midwives can work in hospitals, clinics, delivery centers, or pregnant women's homes. Taking the UK as an example, the Royal College of Midwives (RCM) recognizes that high-quality midwifery services include midwife-led care throughout normal pregnancy, childbirth, and postpartum periods, as midwifery care is needed at every stage (Dahlen & Caplice, 2014). However, due to China's policy, social, and historical background, midwives' responsibilities are limited to delivery services. As shown in Figure 1.1, Chinese midwives' services are limited to the delivery room, and they cannot provide pregnant women with all-around midwifery services from conception to postpartum (Butler, 2017). That has a negative impact on the occupation of midwives since it is not recognized that midwives can independently provide care to low-risk women and that maternity care can be led by midwives. Midwives provide childbirth care, but postpartum care is usually provided by obstetric nurses. In some cases, childbirth is simply treated as a surgical procedure within the hospital. There is a lack of community-based services after discharge, and postpartum follow-ups are carried out by other maternal and child healthcare personnel. Outside of the hospital, midwives are restricted from providing the mother with psychological or social support in the community. There is barely any professional support available to help women address the social

and psychological impact during the transition to motherhood. What pregnant women receive is only staged and fragmented midwifery services.

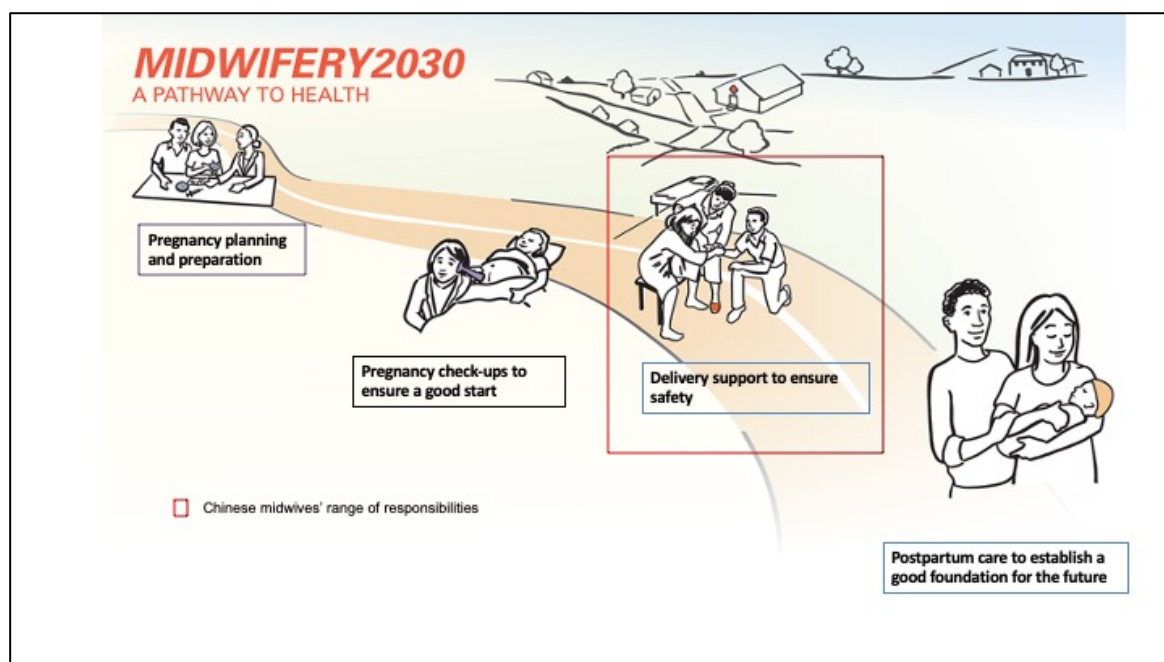


Figure 1.1 Internationally, the responsibility scope of midwives covers the entire process, whereas in China, it is limited to the delivery period

1.1.2.3 Midwife education and professional qualifications

For a long period of time, the education of midwives in China mainly took place in vocational schools. Borrowing the model of secondary vocational education in the former Soviet Union, the new China (the PRC) abolished higher education for midwifery and made vocational education as main education channel, intending to quickly address the shortage of human resources in medical institutions. Later, due to historical reasons, there was a gap in midwifery education in China, and only in the mid-1990s did midwifery higher vocational education restart. In 2016, for the first time, the Ministry of Education approved four universities across China to provide undergraduate programs in midwifery in their nursing schools. In the following three years, a total of 60 universities were successively approved with undergraduate programs of nursing (midwifery), but they were not independent undergraduate programs in midwifery. In the graduation certificates, the major was indicated as nursing (midwifery) (Gong & Zhang, 2017).

Currently, there is no master's program in midwifery in China, and undergraduate programs in midwifery are not classified as first-class disciplines, which still restricts the development of high-level midwifery talents (Lu et al., 2018; Wu et al., 2016). Chinese midwives mainly comprise those who graduated from secondary vocational schools and nurses who graduated

from higher vocational colleges. After graduating and being assigned to work in the delivery room, they will become midwives via clinical midwifery training provided by senior midwives under the “mentorship” model. In countries such as the United States, the UK, Germany, New Zealand, and Australia, midwives are required to hold an undergraduate degree or above, and there is an independent higher education in midwifery, with undergraduate education as the starting point. Taking Canada as an example, the midwifery education program usually lasts for four years at the bachelor’s level. The course is skill-based and follows a spiral curriculum, with a focus on the introduction to core sciences, social sciences, and midwifery concepts. Besides, students allocate 50% of their time to clinical practice as community midwives. The innovative educational model enabled students to balance the theoretical and practical components, and clinically active instructors can increase teaching credibility. The midwifery education model in Canada is very effective, resulting in low rates of midwife turnover and women’s higher satisfaction with midwifery services (Butler et al., 2016). In the United States, there is an independent continuing education system for midwives, and it is required that Certified Nurse-Midwives (CNMs) engaged in professional midwifery work should hold a master’s degree or above. Sweden has similar policies regarding continuing education, and midwives are eligible to apply for master’s and doctoral degrees (Q. Chen, 2016; S. Zhang et al., 2012).

1.1.2.4 Midwife certification

At present, midwives in China are classified as nurses, and there is no independent midwife certification system. Midwives are required to obtain a nurse practitioner certificate, and their promotion is also carried out according to the standards for nurses. There is also a lack of independent policies and regulations for midwives (Lu, 2017). However, in other countries, there is usually a completely independent certification system for midwives. For example, in the United States, there are three types of certified midwives: Certified Midwives (CM), Certified Nurse-Midwife (CNM), and Certified Professional Midwives (CPM) (Collins-Fulea et al., 2005). Among them, CMs and CNMs must be certified by the Certification Committee of the American College of Nurse-Midwives (ACNM) and must be re-certified every five years by meeting the corresponding requirements. CNMs and CMs can provide health care services, including women’s health care, family planning, pregnancy-childbirth-postpartum care, and normal neonatal nursing (Marie et al., 2018). CPMs are midwives who are not required to hold a nurse practitioner certificate, do not have the right to prescribe, and can independently provide care services for pregnant women and newborns at home or childbirth centers (Fullerton et al., 2011).

ICM defined the core competencies of midwives as the basic knowledge, skills, and behaviors required for safe practice in any work environment (Fullerton & Thompson, 2005). New Zealand is the first country in the world to establish a midwife certification system. In 1996, the Nursing Council of New Zealand formulated guidelines for the admission of certified midwives, which set specific indicators of knowledge, skills, and attitudes that professional midwives should possess (Elias & Green, 2007). Canada has introduced midwifery industry rules, which require midwives to provide health education and counseling services for women of childbearing age throughout pregnancy-childbirth, covering pregnancy and childbirth, postpartum maternal and childcare, breastfeeding guidance, knowledge and skills of women's health, and so forth. (Beck et al., 2008). The American College of Nurse-Midwives (ACNM) has approved the application of midwives' core competencies for the national evaluation of midwifery education and certification (Fullerton et al., 2011). Those core competencies indicate the basic skills, knowledge, and legal and regulatory practices that midwives are required to master during midwifery practice (Marzalik et al., 2018).

1.2 Challenges faced by Chinese midwives and research dilemmas.

In October 2015, the Fifth Plenary Session of the 19th Central Committee of the Communist Party of China ended the one-child policy. It was stated that the central government and the whole society should attach great importance to addressing population aging and maintaining the advantages of human resources, which put forward requirements for maternal and child health and brought challenges to midwives. The work of midwives has also shifted from quantity to quality development: from birth rate, mortality rate, number of beds, and bed utilization rate, to proactive delivery experience and warm and affective services. Maternal and child care in the new era requires a stable and reliable team of midwives (He & Luo, 2018; Kang et al., 2015).

With the changes of the times and the development of society, midwifery services required by pregnant women and their families are not limited to delivery anymore. Midwives are expected to provide continuous maternal and child healthcare services throughout the pre-pregnancy, pregnancy, delivery, and postpartum periods (Zhai et al., 2016). The survey results of Zhong (2019) show that primiparous women's top five needs for midwifery care after being admitted to the hospital are: companionship, body position selection for childbirth, solutions for pain reduction during contractions, maternal and infant contact, and techniques in infant care. With the development of midwife clinics in China, efforts have shifted services for

pregnant women from delivery rooms to outpatient clinics. However, due to the lack of relevant regulations on the practice scope, the services are still limited to consultation and health education (Zhong, 2019). The comprehensive opening up of China's birth-control policy, the increase in elderly and high-risk pregnant women, the stress of childbirth trauma events, the high demand for midwifery services due to the improvement of people's living standards, the overall shortage of maternal and child health service resources, and the supply-demand unbalance due to structural shortage have brought enormous pressure to midwives (Day-Stirk, 2017). China's obstetric services are highly medicalized, with the government playing a leadership role, the hospital care policies lead to the marginalization of midwives, and the historical, political, and cultural background of Chinese society affects how midwifery care is provided. For those reasons, Chinese midwives face huge challenges and cannot provide comprehensive care for pregnant women throughout the whole process, from conception to postpartum (Butler, 2017).

The hospital where the author works is a tertiary Grade A maternal and child health center in Shenzhen, a first-tier city in China. A preliminary investigation (Luo et al., 2020) showed that the hospital had an annual delivery volume of over 20,000 cases, accounting for 10% of the birth population in Shenzhen at that time, and there were 48 employed midwives. In Shenzhen, the annual loss of midwives is increasing year by year. The midwife scheduling operates in 6-person groups, and there are 8 groups in total, which rotate in 3 shifts. If the loss exceeds 5% in a certain year, it will inevitably break the hierarchical management of midwives in the group. However, a good balance between experienced and junior midwives in the same team can ensure good midwifery service quality for pregnant women (Bäck et al., 2017; Smith et al., 2009). The author has also observed increased medical disputes over midwives in the delivery room over the past five years. There is also a significant increase in complaints about midwives' poor attitudes or negligence due to heavy workloads (according to internal data). The complaints can be attributed to the mismatch between the increasing demand for maternity care and the midwives' shortage, high turnover rate, and lack of experience. Further research and analysis are needed to explore the underlying factors.

In summary, the shortage of midwives has become a serious global problem. It is even more severe in China, where midwifery is still considered part of nursing, is not treated as an independent profession, and does not have its own promotion system, making the profession and identity of midwives ambiguous. Although undergraduate education in midwifery has been initiated with the effort of multiple ministries and departments, it is not classified as a first-class discipline due to a lack of legal support. Therefore, there is literally no change in the program

structure, and the maternal and infant health issues caused by the marginalization of the midwifery occupation remain unsolved. In China, the definition of midwives is unclear, and their professional identity is ambiguous, resulting in a high turnover rate. They study nursing but are engaged in midwifery work: the education standard does not match the clinical standard. Besides, there is a lack of admission mechanisms for midwives, which affects the safety of the mother and child. The unclear positioning of the midwifery practice and the lack of evaluation and incentive mechanisms have led to a shortage of midwifery human resources. The current challenges are summarized in Table 1.1.

Table 1.1 Challenges faced by Chinese midwives at different levels.

Level	Challenges
Policy	Underwent identity changes for nearly 90 years: midwife-doctor-midwife-nurse, currently in an awkward position; midwives are classified as nurses, and the midwifery undergraduate program is not a first-class discipline; there is no channel for midwife professional title promotion, and the professional identity is ambiguous.
Society	With the changes in China's birth-control policy, the elderly women have higher childbirth risk and higher cesarean section delivery risk (with a cesarean section rate of 46.5% to 68%). The pregnant women and their families' demands are also higher.
Industry	The midwife profession is classified as nursing profession; since there is no independent midwifery industry organization, Chinese midwives cannot join the International Confederation of Midwives (ICM) and thus lack support from professional organization; there is also no independent midwife certification system either.
Hospital	There is a shortage of midwives, with a high turnover rate; the obstetric department receives a lot of complaints; the undergraduate and graduate education for midwives has just started.
Department	The midwives' scope of responsibilities is limited to the delivery room, and they cannot provide comprehensive services throughout pregnancy, prenatal, delivery, and postpartum periods; the hierarchical development of the midwife team is unbalanced.

In short, the shortage of Chinese midwives and their high turnover rate are urgent issues to be addressed, and the working conditions of midwives are to be found out, but there has been very little empirical research. In addition, the high turnover rate of midwives has deep-seated and complex occupational and industry reasons, which constitutes a dilemma to be addressed through research. In theory, how to reasonably allocate work resources and improve the identity of midwives is the key to reducing their turnover intention.

1.3 Theoretical concepts

The Job Demands-Resources (JD-R) Model was first proposed by Demerouti et al. (2001). JD-R model posits that every profession can affect workers' physical/mental health through two factors: job demands and job resources. In the JD-R model, job demands are defined as the physical, social, or organizational aspects of work that require sustained physical or mental

effort, which affects physiological and psychological responses. They are negative evaluations of work. Job resources are defined as positive physical, social, or organizational aspects of work that are functional in achieving work goals, reducing the physiological and psychological costs required by work, and stimulating personal growth and development. Chinese midwives face challenges from five aspects: policy, society, industry, hospitals, and departments. The level of job demands and resources can affect their burnout and career identity, thereby affecting the retention/turnover of midwives.

This study adopts the framework of the JD-R model, focusing on the impact of job resources on career identity, burnout, and turnover intention among midwives. It also investigates the moderating effects of emotional intelligence (as personal resources), leader-member exchange (LMX), and perceived organizational support (POS) (the latter two as organizational resources) on the above-mentioned relationships.

In the JD-R model, job resources are defined as positive physical, social, or organizational aspects of work that are functional in achieving work goals, reducing the physiological and psychological costs required by work, and stimulating personal growth and development. Some examples are work control, social support, and career development. Researchers have observed that job resources can reduce the related costs of job demands and have a motivational effect (Demerouti et al., 2001; Schaufeli & Bakker, 2004).

Career identity is an individual's positive attitude and sense of engagement towards their profession, reflecting their desire to maintain the profession and their level of passion for it. Taking into consideration the current problems related to Chinese midwives, this study attempts to explore the extent to which job resources affect midwives' career identity, thereby affecting their turnover intention.

Burnout refers to individuals' delayed response to chronic emotions and stressors in long-term work (Maslach & Jackson, 1981). When individuals' demands arise but the resources are lost, they will feel threatened or short of resources. If they cannot adapt well, it will ultimately lead to turnover (Wright & Hobfoll, 2004). Researchers have found that the JD-R model predicts that job resources can mitigate the negative impact of job demands on burnout – since employees have very few job resources, the impact of job demands on burnout is particularly strong (Bakker & Demerouti, 2007, 2017; Demerouti et al., 2001; Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007). The JD-R model provides us with the theoretical basis for determining the turnover intention of midwives.

Turnover intention is an individual's withdrawal behavior after experiencing dissatisfaction at work. It indicates the possibility of changing jobs within a certain period of time. Research

has shown that turnover intention can indirectly explain and predict turnover (Carson & Bedian, 1994). With respect to midwives, burnout refers to persistent stress and exhaustion, which leads to turnover when accumulating to a certain extent (Doherty & O'Brien, 2021).

According to the Conservation of Resources (COR) theory, emotional intelligence, as a personal resource, can explain the underlying causes of burnout and some other issues in organizations. To complete work tasks, employees need to expend their internal resources for emotional regulation in situations where external resources are imbalanced (Brotheridge & Lee, 2002; Cote, 2005). When such emotions are not regulated in a timely manner, burnout tends to occur (Buchwald, 2010; Cheng & Chen, 2010; Fu, 2009). If employees consistently feel a lack of resources (personal or social) to assist them in completing work tasks, it can also lead to significant burnout and emotional exhaustion (Hobfoll, 1989; Lee & Ashforth, 1996; Sutton & Kahn, 1986; Tetrick & LaRocco, 1987), ultimately affecting work engagement and performance, leading to turnover (Barnetta et al., 2012; Buchwald, 2010; Neveu, 2007; Treadway & Ferris, 2005).

Leader-member exchange (LMX) is defined as social communication between leaders and members (Graen et al., 1975). LMX posits that positive relationships between leaders and subordinates can have positive impacts, such as improving job satisfaction and efficiency (Gerstner & Day, 1997; H. Wang et al., 2004) and more organizational citizenship behavior (Graen & Uhl-Bien, 1995). LMX is conducive to accessing social resources, including support from leaders and more job resources through leaders. We hypothesize that LMX plays a moderating role between job resources, career identity, and burnout.

Perceived organizational support (POS) explains the relationship between individuals and organizations based on the theoretical concepts of social exchange, reward principles, and organizational personification. POS is individuals' perception of how much the organization cares about their contributions to it and their survival status. It is the perception of being recognized by the organization. In other words, it is the employees' perception of whether the organization supports their feelings (Rhoades et al., 2001). This study hypothesizes that POS, the perception of organizational resources, moderates the relationship between job resources, career identity, and burnout.

The JD-R model provides a conceptual framework, where the two sets of working conditions (job demands and resources) explain employees' differences in engagement (turnover intention) via dual processes, namely, the energy depletion process (e.g., burnout) and the motivational process (e.g., career identity). It is hypothesized that when resources are insufficient, personal resources (emotional intelligence) and organizational resources (POS or

LMX) will be activated and integrated into this framework according to the Conservation of Resources (COR) theory (Baker & Demerouti, 2007, 2017; Xanthopoulou et al., 2007). The model can better explain employees' reactions in different professional environments and the antecedent factors (Baker & Demerouti, 2007; Demerouti et al., 2001). In this study, we apply the model to the midwife population to explore how job resources affect midwives' career identity and burnout, which ultimately affect their turnover intention.

1.4 Research dilemma

The midwives' ambiguous career identity and the shortage of midwives are the dilemmas in midwifery development in China (Xiong, 2017). There have been many international studies on midwives' turnover intention, but very few studies have addressed Chinese midwives' career identity, turnover, or talent loss. Even if there are some, the indicators are relatively onefold, and empirical research on career identity, burnout, and turnover intention is relatively limited. The loss of midwives involves many complex reasons, including many unstructured problems that are difficult for health authorities to calculate and evaluate effectively.

1.5 Research purpose

There has been little in-depth discussion on the factors that lead to a high turnover rate of midwives. Little attention has been paid to the midwife community, and there are few attempts to explore the influence mechanism. Our study is an innovative attempt to investigate midwife retention. It can provide a new perspective for hospital managers in formulating management plans for midwife retention. The Job Demands-Resources (JD-R) theory has received much attention in research on human resource management in the past 20 years. The topics include retention, instability of the existing workforce, and shortage of certain types of technical personnel. In the context of China's comprehensive opening up of its birth-control policy and the increasing demand for midwifery medical services, based on the JD-R theory, considering the professional status of Chinese midwives, this study aims to analyze the impact of job resources on turnover intention via the paths of career identity and burnout among midwives. In addition, based on the Conservation of Resources (COR) theory, this study attempts to verify the moderating effects of emotional intelligence, leader-member exchange (LMX), and perceived organizational support (POS) on the influence paths of job resources on turnover intention among midwives. The data can serve as a reference for government health authorities

in formulating policies to address midwife turnover. It provides an empirical and theoretical basis for midwife human resource allocation and management.

1.6 Research questions

Based on the dilemmas mentioned above and past empirical research applying the JD-R model, this study aims to address the following research questions:

- 1) What is the status of Chinese midwives' job resources, career identity, burnout, and turnover intention?
- 2) What is the relationship between job resources, career identity, burnout, and turnover intention among midwives in China?
- 3) Does emotional intelligence (personal resources) or leader-member exchange/perceived organizational support (organizational resources) play a moderating role between midwives' career identity, burnout, and turnover intention?

Specifically, this study includes two sub-studies. Study 1 explores the moderating role of emotional intelligence as a personal resource in the above-mentioned main relationships in the JD-R model. In previous research, numerous scholars have shown that positive personal resources (emotional intelligence) can help to reduce burnout caused by resource imbalance or insufficiency.

Based on Study 1, Study 2 will explore the moderating effects of leader-member exchange (LMX) and perceived organizational support (POS) in the main paths.

The main tenant of LMX theory is that through different types of exchanges, different quality relationships exist between the leader and each follower. Research shows that high LMX quality relates to positive follower outcomes, such as higher job satisfaction and performance (Gerstner & Day, 1997; H. Wang et al., 2004) and more organizational citizenship behavior (Graen & Uhl-Bien, 1995). This study hypothesizes that LMX can enhance social relationship resources and thus moderates the relationship between job resources and career identity and burnout.

1.7 Thesis structure

This study consists of six chapters: introduction, literature review and theoretical framework, research method, results, discussions, and conclusions and prospects. The contents of each chapter are as follows:

Chapter 1: Introduction, including research background, purposes, and questions.

Chapter 2: Literature review, theoretical framework, and hypotheses. This chapter reviews the literature on the JD-R theory, burnout, career identity, emotional intelligence, perceived organizational support, leader-member exchange, and turnover intention. It also reviews the literature on the relationships between job demands/resources and turnover intention in the medical personnel community, including relevant concepts, different variables, and correlations between the variables. The final two sections of this chapter put forward hypotheses and present the hypothesized model.

Chapter 3: Research design and research method. This chapter introduces the object, measurement tools, and data collection process of the two studies. It presents the reliability and validity analysis of the scales and the main statistical analysis strategies used in this study.

Chapter 4: Results. This chapter reports on the research results in two parts based on the research questions. Firstly, the results of the descriptive analysis and correlation analysis are presented. Then, the results of the analysis of variance are reported. Finally, the two models' structural equation modeling analysis results are presented.

Chapter 5: This chapter discusses the main findings of this study and explains their impact on midwives under the current medical background in China.

Chapter 6: The last chapter concludes this study, discusses its implications, and puts forward prospects for future research.

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Chapter 2: Literature Review and Theoretical Framework

This chapter reviews the literature related to the Job Demands-Resources (JD-R) theory and the Conservation of Resources (COR) Theory and then discusses the key variables and their relationships, covering job resources, career identity, burnout, turnover intention, emotional intelligence, leader-member exchange, and perceived organizational support. Research hypotheses and models are proposed at the end of the chapter.

2.1 The Job Demands-Resources (JD-R) model

2.1.1 JD-R model: an overview

The Job Demands-Resources (JD-R) model was proposed by Demerouti et al. (2001). The theory proposes that the imbalance between job demands and resources causes burnout. When job demands are too high, sufficient job resources can mitigate their impact on burnout. The JD-R model explains the balance between job demands and job resources, which can enhance employees' physical health and help maintain production efficiency (Bakker & Demerouti, 2017).

In the JD-R model, job demands are defined as the physical, social, or organizational aspects of work that require sustained physical or mental effort, which affects physiological and psychological responses. (Demerouti et al., 2001). They are negative evaluations of work. For example, when the job demands are too high, people have to put in extra effort to achieve their goals, which may require physical or psychological costs, such as work overload, interpersonal conflicts, and job insecurity. If those conflicts are not fully resolved, they gradually lead to physical and mental exhaustion of employees. Therefore, job demands have a consuming effect on employees.

In the JD-R model, job resources are defined as the positive physical, social, or organizational aspects of work that are functional in achieving work goals, reducing the physiological and psychological costs required by work, and stimulating personal growth and development (Demerouti et al., 2001), such as feedback, work control, and social support. Scholars have observed that job resources can reduce costs related to job demands and have a motivational effect (Demerouti et al., 2001; Schaufeli & Bakker, 2004).

The JD-R model posits that job characteristics (job demands and resources) lead to work-related outcomes through two separate processes: the energy depletion process and the motivational process. It provides a good approach for employee behavior and organizational output analyses. Based on the classic JD-R model, the concepts of personal resources and job crafting were further introduced (Bakker & Demerouti, 2017; Bakker et al., 2014). That has been considered an improvement of the early model, which only considered job environment characteristics. The improved model highlighted that human professional behavior results from the interaction between personal and environmental factors. There has been plenty of empirical evidence in support of the JD-R model.

According to Schaufeli and Taris (2014), 12 studies confirmed the mediating role of burnout and engagement in energy depletion and motivational processes, and four studies confirmed a partial mediating role of burnout or engagement. Overall, the JD-R model integrates two basic psychological processes. The energy depletion process is triggered by excessive job demands (e.g., emotional demands, work overload, and interpersonal conflicts), and through burnout, it may lead to negative outcomes, such as health issues, absenteeism, and poor work efficiency (Ahola et al., 2017; Q. Hu et al., 2011). The motivational process is triggered by sufficient job resources (e.g., performance feedback and work control), and through work engagement, it may generate positive outcomes, such as organizational commitment, retention intention, extra-role behavior, and work performance (Van den Broeck et al., 2010).

Personal resources are individual employees' unique attributes that affect how they use job resources to respond to job demands (Xanthopoulou et al., 2007). Many studies have attempted to include personal resources, such as self-awareness, personal proactive response, and emotional intelligence, as moderating variables in the JD-R model. In the literature, when personal characteristics (e.g., self-efficacy) are included in the model as moderating variables in the form of personal resources, the model can explain employees' perception of job demands and job resources and the relationship between them (Bakker & Demerouti, 2017; Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007). In a retrospective study of this model, it has been claimed that personal resources may impact the outcome by directly affecting the perception of job demands and job resources and that personal resources are regulators of job demands (Schaufeli & Bakker, 2004).

Regarding the classification of job demands and resources, scholars have researched various professions and work environments. In a review of studies applying the JD-R model, Toon and Taris (2014) identified 30 potential job demands, 31 job resources, and 12 personal

resources. Schaufeli (2015) pointed out that the variables involved were too broad, and that the structure of job demands and resources was not as clear as expected, as some of the concepts overlapped, such as team harmony and team cohesion. He called for using fewer variables or even one single variable to help subsequent researchers have clear thinking and minimize the burden on respondents. Through an analysis of the actual correlation between the variables and organizations and a review of relevant studies, Schaufeli (2017) put forward 12 job demands, 22 job resources, and 8 personal resources (see Table 2.1). Such a comprehensive classification and summary provide a concise and refined framework for subsequent researchers, allowing them to easily select the variables and evaluate any structure with fewer items when applying the JD-R model in different scenarios and practices.

Table 2.1 Classification of job demands and job resources.

Job demands	Job resources	Personal resources
<i>Qualitative job demands.</i>	<i>Social resources</i>	Resilience
○ Emotional demands	○ Co-worker support	Self-efficacy
○ Mental demands	○ Supervisor support	Optimism
○ Physical demands	○ Team atmosphere	Flexibility
○ Work-home conflict	○ Team effectiveness	Setting one's own limits.
<i>Quantitative job demands.</i>	○ Role clarity	Proactivity
○ Work overload	○ Fulfillment of	Goal directedness
○ Work underload	expectations	Self-development
○ Pace of change	○ Recognition	
<i>Organizational demands</i>	<i>Work resources</i>	
○ Negative change	○ Job control	
○ Bureaucracy	○ Person-job fit.	
○ Harassment	○ Task variety	
○ Role conflicts	○ Participation in decision	
○ Interpersonal conflicts	making.	
	○ Use of skills	
	○ Availability of tools	
	<i>Organizational resources</i>	
	○ Communication	
	○ Alignment	
	○ Trust in leadership	
	○ Organizational justice	
	○ Fair pay	
	○ Value congruence	
	<i>Developmental resources</i>	
	○ Performance feedback	
	○ Possibilities for learning &	
	development	
	○ Career perspective	

Source: Schaufeli (2017)

2.1.2 JD-R model: job demands and the related outcomes

In the JD-R model, job demands can predict employees' health damage. Job demands include physiological, emotional, and security demands (Demerouti et al., 2001). Given that job

demands come from time pressure and role conflict, they can also be classified into time demands, problem-solving demands, and adjustment demands (Demerouti et al., 2012). Continuous job demands deplete employees' energy, cause burnout, and ultimately result in negative work outcomes such as health issues and turnover intentions. The outcome variables in the JD-R model generally fall into two groups. The initial group is the employee's physiology, psychology, and behavior, among which, the physiological outcome is a direct indicator of individual health, the psychological outcome is mainly represented by anxiety and burnout, and the behavioral outcome generally includes go-slow, absenteeism, and turnover (Demerouti et al., 2001). The other group of outcomes is the organizational outcome. The main variables include job satisfaction, turnover intention, organizational commitment, and psychological commitment. Job demands include physical demands, work overload, and time pressure (Q. Hu et al., 2017; Schaufeli & Bakker, 2004).

With the progress in research, it was found that some job demands can promote employees' work engagement (Van den Broeck et al., 2010), and therefore, job demands were further classified into challenging and obstructive demands. As the name suggests, challenging demands can bring growth and benefits to employees and can motivate individuals to achieve their goals. They include heavy workload, time pressure, and a sense of responsibility. However, obstructive demands, such as role conflict, role ambiguity, and workload, are not conducive to goal completion (Podsakoff et al., 2007). A recent study (Zeng et al., 2022) has shown that the doctor-patient relationship is a challenging demand in China. It can help increase doctors' work engagement and thus reduce their turnover intention. Anja et al. (2010) further segmented job demands and claimed that emotional demands and work-family conflicts are both obstructive job demands, while workload and cognitive demands are challenging job demands. Interestingly, some factors may perform completely the opposite in different professions. For example, self-control is a challenging demand for people with weak traditional beliefs but an obstructive demand for those with strong traditional beliefs (Xie et al., 2008). Cognitive load is a challenging demand for academic researchers but an obstructive demand for designers (Bakker et al., 2014). Those are all good topics for further research.

The definition and mechanism of job demands have been at the center of scholars' attention (Bakker & Demerouti, 2007; Brotheridge & Grandey, 2002; Peng et al., 2010). In the 70s, some scholars claimed that jobs involving serving humans (e.g., nurses and service personnel) require more effort to meet job demands (Schaufeli et al., 1996). Studies to verify the JD-R model were initially conducted from a physiological perspective. It was found that organizational behavior (e.g., work performance, turnover) could be verified by applying the model. Further in-depth

research found that it was also applicable to social dimensions such as work-family conflict (Schaufeli & Taris, 2014). To this day, this model has been constantly challenged, expanded, and enriched. Some scholars have further developed the model and listed 77 antecedent factors of work engagement from work, family, and society perspectives. The factors are mainly from six categories: organizational atmosphere, job resources, professional resources, personal resources, job demands, and demographic information (Keyko et al., 2016).

For job demands, at present, most research has been focused on physical demands and emotional demands. Emotional demands are particularly important for employees in the interpersonal service industry (van Vegchel et al., 2005). In a study with Portuguese bank employees, the importance of considering emotional job demands in research on service providers' burnout was demonstrated (Castanheira & Chambel, 2013). Scheibe et al. (2015) found that employees of different age groups have different demands. For example, the impact of occupational happiness on older healthcare workers is different from that on younger workers. Age has advantages in managing emotional demands but has advantages in dealing with emotional disorders and sensitive demands. Some studies suggest that the relationship between emotional demands and employee happiness is influenced by social support (Ybema & Smulders, 2002) and job control (De Jonge et al., 2000). Midwives, especially young midwives, may encounter job demands during their professional growth, such as workload demands, time demands, increased load, and a lack of job resources (e.g., perceived organizational support). Heavy workload requires continuous physical labor and consumes a lot of emotional and cognitive energy due to the continuous interpersonal relationships with pregnant women, family members, colleagues, and superiors (Bakker & Demerouti, 2007).

2.1.3 JD-R model: job resources and the related outcomes

For employees to complete work tasks, job resources play a decisive role. If employees consistently feel a lack of resources (personal and social) to help them complete work tasks, it can lead to significant burnout and emotional exhaustion (Hobfoll & Lerman, 1989). With an imbalance of external resources, employees must spend many internal resources to regulate their emotions (H. Wang & Zhang, 2018). Burnout will occur if emotional regulation cannot change the resource imbalance (Fu et al., 2008). Emotional exhaustion will further affect work performance (Kapoutsis et al., 2011; Treadway et al., 2005). Ultimately, it will inevitably affect work engagement and lead to turnover (Barnetta et al., 2012; Neveu, 2007; Treadway & Ferris, 2005). From a resource perspective, researchers have shown that cognitive and emotional job

insecurity can lead to emotional exhaustion through emotional labor; job demands, work environments, and organizational management models can lead to job resource imbalance (Methot et al., 2016).

As a self-owned resource, positive personal characteristics can help individuals solve the problems of stress and burnout caused by resource loss (Morelli & Cunningham, 2012). Research has shown that employees' personal resource characteristics can moderate the degree of burnout (Cordes & Dougherty, 1993; Y. Li, 2004); negative emotions are positively correlated with emotional exhaustion, and positive emotions are negatively correlated with emotional exhaustion. Studies such as Wright and Bonett (2002) confirmed that positive emotional resources, such as psychological well-being, can help employees better handle life and work demands and compensate for resource depletion. Psychological well-being and performance have a positive relationship (Wright & Staw, 1999; Yang, et al., 2015).

The JD-R model highlights that long-term high job demands are likely to lead to the depletion of employees' psychological resources, and the lack of job resources has a decisive impact on personal motivation and behavior, ultimately leading to alienation from work and reduced self-efficacy (Xanthopoulou et al., 2007). The Conservation of Resources (COR) theory focuses on how to alleviate employees' work pressure, improve the work environment, and enhance resource value from the perspective of protecting job resources. Based on the JD-R model, this study put forward the hypothesis that midwives' job resources have an effect on career identity, burnout, and turnover intention (the main effects), and based on the COR theory, it is also hypothesized that emotional intelligence, leader-member exchange (LMX), and perceived organizational support (POS) have moderating effects.

Based on past research using JD-R models, Schaufeli and Taris (2014) listed 61 job demands and resources and 22 outcomes. Reviewing 9 studies applying the JD-R model, Hu and Taris (2011) identified 30 potential job demands, 31 job resources, 22 outcomes, and 12 personal resources. Given that some concepts overlapped, Schaufeli (2017) attempted to evaluate outcomes with fewer items when developing the online JD-R evaluation tool, Energy Compass. He selected 21 items of job demands and categorized them into qualitative, quantitative, and organizational demands. He used 51 items of job resources, which were categorized into social resources, work resources, organizational resources, and development resources. The outcomes were categorized into commitment, employee competence, and employee performance, with 13 items.

Given Schaufeli's outstanding contributions and empirical experience in this field, this study mainly used the four types of job resources (social, work, organizational, and

development resources) in Schaufeli (2017) as midwife evaluation criteria. The aim is to comprehensively understand whether job resources have a predictive effect on midwife burnout and career identity.

In the JD-R model, sufficient job resources are conducive factors and can motivate employees' work, while insufficient job resources can lead to physical and psychological problems. There are mainly three types of research on job resources. The first type of research hypothesizes that job resources can reduce employees' physical and psychological losses caused by job demands. The second type hypothesizes that job resources may play a role in driving the achievement of work goals. The third type hypothesizes that job resources motivate employees to grow, improve, and learn. Schaufeli and Bakker (2004) posit that job resources can be classified into job control, social resources, organizational resources, and career resources. Given the different classifications (Q. Hu et al., 2017; Schaufeli & Bakker, 2004), some Chinese scholars pointed out that the variables could be selected and adjusted according to the specific organization (Qi et al., 2016).

Some scholars have pointed out that medical staff is a suitable sample for research on job resources. Hospital work involves interaction with different types of patients and requires a lot of patience and long-term intensive labor. There is a lot of work pressure among medical staff, and high-level job resources may reduce their burnout (Jex & Beehr, 1991; C. Li & Shi, 2003). Research has shown that job resources significantly correlate with job satisfaction, turnover intention, job impact, perceived control, and role stress (Bakker et al., 2002). Considering China's national conditions, some Chinese scholars have attempted to classify job resources into material resources, emotional resources, and cognitive resources. Material resources are such as facility hardware, income, and work environment; emotional resources refer to emotional and social support, such as support from leaders and colleagues and family support; cognitive resources usually refer to perceptions from work, such as emotional regulation, career identity, and job control (Qi et al., 2016).

Personal resources are individual employees' unique attributes that affect how they use job resources to respond to job demands (Xanthopoulou et al., 2007). Many studies have attempted to include personal resources in the JD-S model as moderating variables, usually including self-awareness, personal proactive response, and emotional intelligence. In the literature, when personal characteristics (e.g., self-efficacy) were included in the model as moderating variables in the form of personal resources, the model could explain employees' perception of job demands and job resources and the relationship between them (Bakker & Demerouti, 2017; Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007). In a retrospective study of this model,

it was claimed that personal resources might affect the outcome by directly affecting the perception and results of job demands and resources and that personal resources are regulators of job demands (Schaufeli & Bakker, 2004).

2.1.4 Application of the JD-R model in a healthcare setting

The core idea of the JD-R model is that in every profession, the workers' physical and mental health is influenced by two factors: job demands and job resources. Many studies have further demonstrated that the JD-R model is a very useful framework for research on healthcare professionals (Demerouti et al., 2001; Elfering et al., 2017). With more research findings, job demands were further classified into challenging job demands and obstructive job demands. Challenging job demands have two-sided characteristics, energy-consuming while stimulating, as they contribute to valuable outcomes such as achieving work goals (Van den Broeck et al., 2010). Some Chinese scholars (Zhang & Xu, 2009) posit that alienation and indifference in work are caused by insufficient material, psychological, and social resources. For clinical physicians in Chinese hospitals, the doctor-patient relationship can be considered a job demand related to motivational outcomes (Zeng et al., 2021). A study that tested the specific relationship pattern of Dutch general practitioners applying the JD-R model found that the causal relationship between burnout and factors related to demands, resources, and personnel is bidirectional (Houkes et al., 2011). Way (2008) suggests that nurses' job demands and resources include work environment, job diversity, decision-making power, supervisor support, and colleague support. Han (2016) posits that the work of nurses involves multiple demands and resources. The reasons for the turnover of Dutch community midwives include the overload of job demands, lack of social resources, and family responsibilities; for junior midwives, the main reason for turnover is salary, while for senior midwives, the work environment and the sense of career achievement are more important (Feijen-de Jong et al., 2022).

Nurses are a professional group that has been extensively studied by applying the JR-D model. They are widely recognized as an occupational group with high work intensity and stress. They typically have high levels of burnout, manifested by low work engagement (Karami et al., 2017). Some scholars have studied the additive, synergistic, and moderating effects of nurses' job demands and job resources on burnout, work engagement, and organizational outcomes by applying the JD-R model (R. Li, 2021). Janssen et al. (2004) conducted a structural equation modeling analysis on job characteristics among 115 American nurses and 260 Dutch nurses and showed that Dutch nurses' job resources partially mediated the relationship between

psychological job demands and organizational commitment and emotional exhaustion. A survey involving 625 blue-collar workers and 761 health professionals (Q. Hu et al., 2011) has found that burnout leads to turnover intention and low organizational commitment, and that job demands and job resources have a synergistic effect on burnout and work engagement.

Generally speaking, employees in the healthcare industry often encounter demanding patients (Xanthopoulou et al., 2007). In China, midwives face pregnant women and families, including primiparous women of the only-child generation born in the 1980s and 1990s, and elderly and high-risk postpartum women born in the 1970s and 1960s. Interacting with those pregnant women requires not only exquisite professional skills but also much time, work, pressure, and emotional demands (Bakker & SanzVergel, 2013). Research has shown that in the JD-R model, different types of job demands shall be distinguished, and there are differences in the effect of job characteristics among different professions (Anja et al., 2010). Therefore, although many studies on the nurse population can provide some inspiration and reference, they cannot represent the midwife population.

2.2 Conservation of Resources (COR) theory

Hobfoll and Stokes (1988) proposed the Conservation of Resources (COR) theory and applied it to social intervention and research. The COR theory describes resource loss as a disproportionate weighting compared to resource returns.

Hobfoll posits that resources are the materials, conditions, and personal characteristics individuals consider valuable and their corresponding acquisition methods (Hobfoll, 1988; Hobfoll et al., 1990). According to Hobfoll, social resources are related to personal resources, both influenced by the environment, and personal resources are also correlated to overall identity. The best way to alleviate stress is to affect the wide range of resource systems, and both personal and social resources should be used for making improvements and adjustments. Self-endowed resources (e.g., self-esteem and a sense of control) provide a principal reservoir (Hobfoll et al., 1990). The COR theory emphasizes that individuals will make every effort to preserve, acquire, and promote resources deemed valuable to avoid resource depletion (Hobfoll & Freedy, 1993). Individuals under long-term work pressure will first experience symptoms of physical and mental health stress, such as anxiety, tension, and depression. Then, they can only consume individual resources, and to a certain extent, it will lead to negative job outcomes, such as high burnout, low job performance, and strong turnover intention (Kessler et al., 2010).

The COR theory further hypothesizes that to prevent resource loss or to obtain resources,

it is necessary to invest in other resources. Resources are conducive to further acquisition of resources, while a lack of resources leads to sustained resource losses; individuals, groups, or organizations with strong reserves of personal or social resources can better resist the negative effects of stress and tackle daily challenges. A fundamental principle of this theory is that losses and gains are disproportionately weighted (Hobfoll & Stokes, 1988).

Hobfoll and Wells (2006) further classified resources into four categories: material resources (work environment, hardware facilities), conditional resources (social relationships, work experience), personal resources (emotional intelligence, self-efficacy), and energy resources (time, knowledge, money, and social support). According to the COR theory, individuals will experience stress when resources are lost and cannot be obtained. When resources are used to offset this pressure, the resources used to cope with future pressures will decrease, and they will not emerge when one needs them the most. This situation may lead to a loss spiral, thereby increasing one's vulnerability to stress. The losses are becoming more severe, rapidly reducing individuals' resource reserves and their response efforts (Hall et al., 2006).

There are two effects of resources, loss spiral and gain spiral. When resources are scarce or insufficient, individuals will bear work pressure due to resource loss. If the pressure intensifies, it will lead to further loss of protected resources, thus accelerating resource loss –the loss spiral. When there are sufficient or timely compensated resources, individuals can continuously obtain more resources with a “snowball” effect and have the ability to obtain more resources, which will bring bigger resource gain. That is the core content of the COR theory (Hall et al., 2006; Hobfoll & Wells, 2006).

The COR theory focuses on the “resources” in individual work behavior, and different scholars have different views on resources. Some scholars (Gorgievski et al., 2011) consider resources as a form of value and define them as any favorable factor that can bring benefits. The COR theory is useful to research on stress by understanding the degree of resource loss (Benight et al., 1999; Hobfoll & Wells, 2006) and is currently widely applied to research on burnout (Brotheridge & Lee, 2013; Buchwald & Hobfoll, 2004; Gorgievski & Hobfoll, 2008). It has also been applied to research on specific work environments, organizational innovation, and incentive mechanisms (Grandey, 2003; Halbesleben & Bowler, 2007; Klotz et al., 2011). The COR theory highlights the input-output imbalance of individual resources, which can lead to different outcomes of work behavior (burnout, stress, performance) (Hobfoll & Shirom, 2001). It has become one of the basic theories in innovative positive psychology research.

Numerous empirical studies have supported and expanded the COR theoretical model. The provision of resources plays an important role in improving organizational performance and

promoting organizational development. When resources are insufficient or existing job resources cannot meet the high job demands, individuals will make defensive responses to all types of internal and external stimuli, mainly manifested in physiological discomfort and negative work behaviors (Demerouti et al., 2001; Schaufeli & Greenglass, 2001). To reduce resource loss, individuals make the greatest efforts to acquire, preserve, and maintain resources. The COR theory has been receiving increasing attention in studies on organizations, either about stress or motivation. It explains how individuals and organizations respond to the impact of environmental stress and the actions they take to acquire and protect their resources. Research has shown that resource loss is a key component of stress processes in organizations, and limiting resource loss is crucial for successful prevention and post-stress intervention (Westman & Etzion, 2001; Westman et al., 2004; Xanthopoulou, et al., 2012). To sum up, the COR theory is the main explanatory model for understanding the work stress process.

2.3 Career identity

2.3.1 Definition of career identity

Given the ambiguous role and identity of Chinese midwives introduced in Chapter 1, this study attempts to find out the level of their career identity and how it affects their turnover intention.

A career identity is “a structure of meanings in which the individual links his own motivation, interests, and competencies with acceptable career roles” (Meijers, 1998). Career identity refers to the degree to which people identify themselves in work. Through a review of relevant concepts and definitions, the consensus is that it evaluates individuals’ positive attitude and sense of engagement towards their profession and reflects their passion for the profession and their desire for retention (Johnston & Swanson, 2007; London & Noe, 1997; McArdle et al., 2007). As a type of faith, career identity is of great significance for industry development, organizational human resources, and personal career development.

2.3.2 The influencing factors of career identity

Career identity affects an individual’s thinking, emotions, and behaviors. A strong sense of identity can encourage individuals to show the value of their community and actively evaluate their knowledge and skills, thus preventing negative emotional experiences (Ashforth et al., 2008). As individuals’ positive evaluation of their profession, career identity can help them overcome the sense of externality and alienation of the profession and make their value

motivation conscious and active (Wang et al., 2003; Wright & Staw, 1999). The Social Identity Theory holds that identity is a positive state of self-concept and the most fundamental motivation for individual self-esteem enhancement (Ashforth & Mael, 1989). Career identity may consist of two independent dimensions, namely work identity and organizational identity (Johnston & Swanson, 2007; London & Noe, 1997; McArdle et al., 2007). There is a positive correlation between career identity and career development support. For individuals with higher levels of organizational identity, their supervisors will have lower authorization evaluations (London, 2011; McArdle et al., 2007). Career identity affects the level of career decision-making, which directly affects employees' career paths (Yoon & Youngran, 2009).

Some studies suggest that career identity, as an antecedent variable, is closely related to factors such as job satisfaction, burnout, and turnover. Research to verify the relationship between career growth and turnover intention has found that organizational identity and professional identity play a moderating role; career identity's impact on turnover intention is more significant when professional identity is high and organizational identity is low (Canrinus et al., 2012; Yuan et al., 2014). Career commitment and career identity are both cross-disciplinary concepts of management psychology and career psychology (Meyer et al., 2002) but have different focuses. Career identity is the degree to which employees define themselves based on work, while career commitment is the degree to which employees are unwilling to change their careers. Career commitment is defined as an individual's attitude towards their profession (Carson & Bedeian, 1994; Gary & Blau, 1985), characterized by an individual's development of goals, determination towards the goals, identification with the goals, and engagement in the goals (Irving et al., 1997).

Midwives' education, learning experience, and midwifery skills affect their career identity and ultimately affect their career outcomes (Meijers et al., 2013; Mulligan, 1976). Enhancing the career identity of midwives can help reduce their level of burnout (Ye et al., 2014). Research has shown that nurses' career identity negatively correlates with job stressors and burnout (Pan et al., 2016). After years of development, the midwife profession has become an independent medical profession in most countries, including Poland. A survey in Poland (Jarosova et al., 2016) found that: 1) Some medical personnel participants did not consider midwives as independent doctors. 2) Most midwives were aware of their rights and obligations under Polish law and believed their lack of career identification was due to unclear provisions and articles in Polish law. 3) The female participants of the survey showed interest in midwifery services. They expressed that this service is commonly needed and that it makes sense to raise awareness of midwifery as an independent profession. In fact, the same confusions exist among Chinese

midwives. Given the current problems related to midwives in China, this study attempts to explore whether job demands and job resources affect midwives' career identity, thereby affecting their turnover intention.

Besides the effect of career identity, scholars have also paid attention to the measurement of career identity. The career identity scale developed by Hofman and Kremer (1981) was widely applied in early studies. It consists of 19 items of four categories, including career value and attractiveness, career importance, and relevance. The career identity scale developed by Tyler and McCallum (1998) has also been widely used. It was adapted from the organizational identity and career commitment scales and can measure common career identity, with 10 items. Research by a Chinese scholar (Xie, 2014) has shown that the scale is suitable for medical and nursing personnel. Items are scored on a 5-point Likert scale, with higher scores indicating higher career identity. The scale's Cronbach's α coefficient is 0.913. Different career identity scales have been developed for different professions, but mostly for the teaching profession. The Chinese Teacher Scale developed by Wei et al. (2013) consists of 18 items in four dimensions, including career value, sense of career belonging, role value, and career behavior tendency. It has good reliability and validity and has been widely applied in China in recent years. The Professional Identity Scale for Nursing Students (PISNS), developed by L. Liu et al. (2011), includes 17 items in 5 dimensions, including career self-concept, retention benefits and turnover risks, career choice autonomy, social comparison and self-reflection, and social persuasion. Items are scored on a 5-point Likert scale, and the total score is 85 points. Except for 12 questions with negative scoring, all others are positive scoring. A higher score means a stronger career identity for nurses. The Chinese scale showed good reliability and validity (Cronbach's α is 0.902, split-half reliability is 0.858, and retest reliability is 0.899) and is widely used in China for evaluating the career identity of nurses (Deng et al., 2016).

2.3.3 The relationship between job resources and career identity

Career identity has been proven to be correlated with positive career behavior. With higher levels of career identity, employees tend to be more positive (McArdle et al., 2007; Meijers, 1998). Q. Liu (2007) confirmed that career identity achievements are positively correlated with job resources, employees with rich job resources tend to have higher career identity, and career identity achievements are positively related to work experience and self-efficacy from different channels. A study in Australia investigated midwives' retention and suggested that the main reason for midwives' retention was their career identity (Sullivan et al., 2011).

We thus put forward,

Hypothesis 1 (H1): *Midwives' job resources are positively related to career identity.*

2.4 Burnout

There has been plenty of research on the relationship between job resources and burnout applying the JD-R model. Studies generally suggest the relationships from 5 perspectives: the relationship between interpersonal role and burnout, the relationship between role conflict/ambiguity and burnout, the relationship between work overload and burnout, the relationship between work environment and burnout, and demographic variables.

2.4.1 Burnout from COR perspective

Job burnout refers to individuals' delayed response to chronic emotions and stressors in long-term work. In recent years, burnout has become a hot research topic and a field of concern in occupational health psychology (Y. Li, 2004). Maslach and Jackson's (1981) definition of burnout has been widely accepted by scholars. It views burnout as individuals' comprehensive symptom of emotional exhaustion, depersonalization, and decreased personal achievement in occupations of serving people (Demerouti et al., 2001; Maslach et al., 2001; Schaufeli & Bakker, 2004). Burnout has three dimensions, namely emotional exhaustion, depersonalization, and decreased personal achievement (Maslach & Jackson, 1981).

Burnout is a severe chronic occupational stress related to an individual's profession, characterized by physical and mental fatigue and exhaustion under heavy work pressure. It is a symptom related to the work environment (Maslach et al., 2001). Research has found that employees' anxiety and depression are related to job burnout. Employees' higher level of burnout leads to more anxiety and depression, resulting in a decrease in work efficiency and an increase in absenteeism and turnover (Lee & Ashforth, 1996). Maslach (2016) further suggests that burnout is a long-term response to chronic emotions and interpersonal stressors in the workplace. According to Maslach, burnout is a complex problem in many professions and has three dimensions, namely, emotional exhaustion, depersonalization, and decreased personal achievement, which correspond to fatigue, cynicism, and inefficiency, respectively. The framework focuses on the dynamics of interpersonal relationships between employees and others in the workplace. Wright and Hobfoll (2004) posit that there is a serious imbalance between job demands and job resources. If job resources cannot be compensated or adapted in

a timely manner, it can lead to burnout, which may ultimately lead to turnover.

The Resource Conservation (COR) theory suggests that burnout can be approached within the COR framework. When there is a depletion of internal energy resources, resource conservation will involve emotional, physiological, and cognitive energy. The COR model highlights that maintaining personal resources can help to maintain job resources and reduce job demands. Individuals combine all the conditions and characteristics into resources to achieve their goals. They are the accumulation of abilities to help them achieve their goals. When there is a continuous loss of resources, burnout arises, which gradually weakens an individual's ability to resist new stressors (Bianchi et al., 2013; Pines & Ayala, 2002)

2.4.2 Burnout in health care professionals

Medical professionals are often in a state of high intensity, high tension, and rapid response, and are at high risk of burnout (Wu, 2018). Through a search using the keywords “job burnout”, “occupational exhaustion”, and “midwife” in domestic and overseas literature, we have found that there are relatively few studies on midwife burnout. In China, there have been only 17 studies in the past five years, mostly focusing on the current situation and the influencing factors of midwife burnout (Jiang et al., 2017; L. Li et al., 2016; Tang, 2017). Very few have conducted in-depth analyses using psychology and management theories. There is a lack of in-depth exploration and investigation. When investigating medical professionals' burnout, Chinese scholars usually apply the univariate quantitative research method, which seems too simplistic. There is a lack of analysis on different specialties and different types of medical professionals, and the results of the current studies are not convincing enough. An analysis from multiple perspectives involving multiple dimensions is still needed (Shao et al., 2019).

A survey shows that 52.4% of medical professionals in China suffer from burnout, and 3.2% have a high level of burnout (Xiong et al., 2011). Job burnout is manifested by three symptoms. First, individuals' emotions are extremely fatigued, their emotional resources are exhausted, and their work enthusiasm is completely lost. Second, individuals treat surrounding people with negative and indifferent attitudes and emotions, lacking sympathy for others or even treating them as inanimate objects. Third, their evaluation of the work's significance and value is reduced, their self-efficacy is lost, and they no longer work hard (Q. Hu et al., 2017). Y. Li and his colleagues conducted a series of structural and measurement studies on burnout (Y. Li, 2005; Y. Li & Meng, 2004; Y. Li & Wu, 2005). C. Li and his colleagues (C. Li & Shi, 2003; C. Li et al., 2003) researched the antecedent and outcome variables of burnout and localized the

Maslach Burnout Inventory (MBI) scale, which achieved good reliability and validity. It led to a wave of research on burnout in the context of Chinese culture. A cross-sectional descriptive study involving 1190 midwives from 7 countries found that midwives' perception of well-being was not affected by job satisfaction but other factors such as job resources (Jarosova et al., 2016). A study has shown that Australian midwives have higher levels of personal and job burnout, but lower levels of burnout related to caring for women (Gamble, 2013). The results provide a basis for further understanding the emotional health of midwives in obstetric wards. Although more efforts are still needed, strategies to reduce and/or prevent job burnout, such as clinical guidance and restructuring maternal care models, may be applied to improve job satisfaction and autonomy and to strengthen the relationship between midwives and pregnant women.

The medical professionals' demographic characteristics, life-saving mission, and intensive human-assistance work affect their job burnout. At the same time, support from family and society may alleviate their burnout to a certain extent. Long-term burnout among medical professionals has negative effects on their own health and patient safety, resulting in strained doctor-patient relationships, which may lead to adverse events (Shao et al., 2019). Through a survey involving different types of medical professionals in hospitals, Zhang et al. (2016) found that gender, education level, job position, professional title, weekly working hours, and affiliated department are all related to job burnout. However, we do not find the results of midwives in the study. Medical professionals from different departments or positions in the same medical institution exhibit varying degrees of job burnout, and doctors and nurses have different levels of burnout (Liu, 2017). Doctors in different medical institutions also vary in the level of burnout (Jiang, 2011; Misiołek et al., 2014). Doctors in high-risk positions, such as obstetricians, ICU doctors, and anesthesiologists, have a higher level of job burnout (Mikalauskas et al., 2018). Internationally, some scholars have conducted in-depth studies on specific types of doctors from a micro perspective, while others focus on the entire population of medical professionals from a macro perspective. In China, there is not much research on midwives' burnout, and the few studies on hospital-based midwives mainly addressed reporting, evaluating, and reducing burnout (Suleiman-Martos et al., 2020). The literature suggests that there are differences between midwives and other medical professionals.

Studies in other countries have found that midwives suffer from job burnout. Hildingsson and Fenwick (2015) found that one-third of European midwives experienced different degrees of job burnout. Among the Swiss participants, 39.5% had high burnout scores, while 15% had moderate scores. Overall, half of the midwives showed varying degrees of burnout. In Australia,

nearly 30% of midwives experienced moderate to high levels of job burnout, and approximately 50% had relatively high burnout scores; insufficient job resources and physical fitness of midwives significantly affected their burnout and the quality of the medical services provided to women (Jordan et al., 2013). Sheen et al. (2015) showed that 33% of surveyed British midwives experienced job burnout, and the burnout level was related to their experience of traumatic stress syndrome. Multiple studies in the UK have found that over half of midwives have significantly high levels of burnout, with midwives under 35 years old or with less than 10 years of work experience scoring the highest in personal and job burnout; the degree of job burnout is related to work experience, work field, and social change (Gerova et al., 2010; Muscat et al., 2021; Rayment, 2011). Kalicinskam et al. (2012) suggest that supervisors' support is particularly important in preventing or reducing job burnout among Polish midwives. The symptoms of burnout among Swedish midwives are related to various aspects of mental health, and the occurrence of burnout is related to the working environment (Hadžibajramović et al., 2022).

2.4.3 The relationship between job resources and job burnout

Lack of job resources can affect job burnout and is related to turnover (Demerouti et al., 2001; Hakanen et al., 2006). Demerouti et al. (2001) categorize burnout-related factors into job demands and job resources and posit that environments with high job demands and scarce job resources tend to cause burnout. Schaufeli and Bakker (2004) found that abundant job resources can buffer the negative effects of job burnout, which is influenced by job resources and is related to turnover intention, and that personal resources can mediate the relationship between job resources and turnover intention. Way (2008) measured job demands and job resources (job skill diversity, decision-making authority, and support), and the results can provide insights for managers in addressing nurse shortages, recruitment, and retention. Scholars have found that the JD-R model predicts that job resources can alleviate the negative impact of job demands on burnout; employees have very few job resources, and thus the impact of job demands on their burnout is particularly strong (Bakker & Demerouti, 2007, 2017; Demerouti et al., 2019; Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007).

Based on previous studies, the JD-R theory has provided us with a conceptual perspective on midwives' turnover intention. Given the current situation of Chinese midwives, we selected job resources, the key factor of midwives' turnover intention, for our study. When job resources are insufficient, Chinese midwives need to take care of patients with high emotional demands,

deal with their families, and handle related conflicts. They need support and cooperation from colleagues and teams. Such emotional needs, colleague support, and team support are typical job resources (Schaufeli & Taris, 2014), which is why we selected the job resource items put forward by Schaufeli as midwife job resources in this study. Based on previous research results, we hypothesize that job resources are negatively related to burnout.

Therefore, we put forward,

Hypothesis 2 (H2): *Midwives' job resources are negatively related to burnout.*

2.5 Turnover Intention

Turnover intention is an antecedent variable of turnover and indirectly explains and predicts turnover. Its influencing factors come from society, organizations, and individuals.

2.5.1 Definition of turnover intention

Porter and Steers (1973) posit that when individuals are overwhelmed at work, they will escape subconsciously, and when their needs cannot be fulfilled in the workplace, they will retreat. Miller (1979) indicates that turnover intention, as a predictive variable, can predict the occurrence of actual turnover. According to Homer and Hollingsworth (1978), turnover intention is the comprehensive performance of individual employees who are dissatisfied with their current job, desire to leave, and may find other jobs. Based on the impact on the organization, Todor and Dalton (1979) classified turnover intention into functional (underperforming employees' turnover intention will not have a negative impact on the organization) and non-functional (well-performing individuals' turnover intention may cause some losses to the organization). Turnover intention is a withdrawal behavior in response to dissatisfaction in the workplace. It indicates the likelihood of an individual changing jobs within a certain period of time and can indirectly explain and predict turnover (Carson & Bedeian, 1994). Some researchers (Wang et al., 2016; Zhou et al., 2020) posit that the definition of turnover intention is controversial and that it refers to proactive rather than passive turnover: it is an individual's intention to consider leaving the job position under the influence of a specific environment and mood. Turnover intention can predict employees' psychological inclination to leave their current organization or job. Managers can use it to predict turnover behaviors in order to reduce the turnover's consequences and prevent it from seriously affecting the normal operation of the whole organization (Coomber & Barriball, 2007; Wang & Tan, 2019). Based on previous studies, turnover intention can serve as an antecedent and predictive variable of

turnover.

2.5.2 Factors related to turnover intention.

The factors that affect turnover intention generally fall into three groups: personal characteristics, organizational factors, and social factors. The influencing factors of Chinese medical professionals' turnover include salary, educational background, personal development opportunities, and the capability of hospital managers. The turnover rate of female medical professionals is higher than that of male professionals (Wang et al., 2017), and gender is one of the personal characteristic factors. Current research on the influencing factors of clinical nurses' turnover intention lacks multi-level factor analysis, and further research is still needed (Zhu & Li, 2012). Individuals' turnover behavior is predictable to a certain extent (Wang & Tan, 2019). Some researchers suggest strengthening empirical models to improve research on the turnover intention of medical professionals (Yang & Yu, 2014).

Jia (2012) surveyed midwives in Beijing and showed that 77.7% of midwives had turnover intention. According to Lu et al. (2020), 79.6% of the midwives of the 27 medical institutions in Anhui Province are contract-based midwives; frequent mobility and unstable personnel are the main reasons for the shortage of midwives. Ma (2019) found that 66.66% of midwives transferred or resigned due to high work pressure. Zhu et al., (2014) posit that the loss of midwives is related to lack of social recognition, high risk and pressure in work, occupational exposure, high intensity of night shifts, and occupational strain caused by child delivery, but did not provide specific data and analysis. A study on the turnover intention of medical personnel (Shen et al., 2021) suggests taking advantage of the healthcare system reform as an opportunity to reduce the turnover intention of medical personnel. From a cognitive perspective, the cognitive process includes environmental stimuli, cognitive assessment, and behavioral outcomes. Cognitive factors such as career identity play an important role in moderating environmental stimuli and behavioral outcomes (Tyler & McCallum, 1998; Zhang et al., 2015).

Through a literature review, we have found that research on midwives' turnover intention in China is mostly based on small-scale surveys with small sample sizes. The studies lack careful consideration of factors and have not provided targeted and effective methods to reduce the turnover rate of midwives. It is necessary to consider the medical security system, the operation mode of medical institutions, and the characteristics of midwife human resources in China to conduct in-depth research on the influencing factors of midwife turnover intention and their interactions.

Career identity reflects the attitude and identification of midwives towards their profession. In the background introduction of the previous chapter, we elaborated on the dilemmas of the unclear definition of midwives and the ambiguous career identity of Chinese midwives, which result in the unclear scope of practice (Vaismoradi et al., 2011). We hypothesize that the career identity of midwives is negatively associated with turnover intention (H3); that is, high career identity can reduce turnover intention. Considering the above-mentioned hypothesis of a positive relationship between job resources and career identity (H1) and the hypothesis of a negative relationship between career identity and turnover intention (H3), we hypothesize that career identity plays a mediating role between job resources and turnover intention (H4).

Hypothesis 3 (H3): *Midwives' career identity is negatively related to turnover intention.*

Hypothesis 4 (H4): *Midwives' career identity plays a mediating role between job resources and turnover intention.*

2.5.3 Relationship between career identity and burnout

There have been many studies that have proven a negative relationship between career identity and job burnout, and that a person's career identity has a significant impact on their level of burnout because the stronger a person's sense of identity with their career, the less likely they are to develop burnout (Kremer-Hayon et al., 2002). In a study of health workers, W. Zhang et al. (2018) found a significant relationship between burnout and career identity levels, which is consistent with the conclusions of other studies (Sabanciogullari & Dogan, 2015). When an individual has a positive sense of identification with their career, they will invest more energy and enthusiasm into the work, and the dissatisfaction brought about by the work environment will be eliminated to a certain extent (Coetzee & van Dyk, 2018a). In addition, if certain aspects of individuals' personal identity are consistent with their career identity, they can maintain a high level of work engagement even under unfavorable working conditions (Britt, 2003). In a study on doctors, Mainous et al. (2018) pointed out that when individuals highly identify with their career, they will invest more time and energy in their work; job dissatisfaction caused by work environment and conditions may be reduced or even eliminated. In their study on nurses, Sabanciogullari and Dogan (2015) found that career identity has a negative impact on burnout. For individuals with a high level of professional self (viewing themselves as part of a profession), burnout can be reduced. Hu et al. (2021) and Kanste (2011) showed the same results, that career identity development programs can increase professional commitment, improve healthcare practices, increase personal satisfaction, and reduce job burnout. The lack

of recognition can increase nurses' disappointment, fatigue, and burnout (Wang et al., 2012). The results of Huang and Chen (2021) and Jia and Du (2017) show that career identity has a direct negative predictive effect on burnout, and midwives' career identity is negatively related to burnout.

Based on the above results, it can be inferred that enhancing midwives' career identity level can help reduce their burnout. Considering the previous hypothesis of a positive relationship between job resources and career identity (H1), a negative relationship between job resources and burnout (H2), and a negative relationship between career identity and turnover intention (H3), we put forward the following hypothesis:

Hypothesis 4a (H4a): *Job resources are negatively related to turnover intention through a sequential indirect effect via (a) career identity and subsequent (b) burnout.*

2.5.4 Relationship between burnout and turnover intention

Job burnout can increase midwives' turnover intention (Hunter et al., 2019). According to a survey of midwives in Ireland (Doherty & O'Brien, 2021), midwives define job burnout as sustained stress and exhaustion. From the perspective of midwives, burnout is highly related to excessive workload. When burnout accumulates to a certain extent, it leads to turnover. Employees' burnout symptoms and work pressure are associated with excessive workload (Jordan et al., 2013). Nathan et al. (2007) showed that job satisfaction is negatively related to organizational commitment but positively related to turnover intention, turnover, and withdrawal behavior. Research on midwives' job satisfaction has been conducted in specific economic and socio-cultural contexts in some countries, showing the impact of job demands and resources on midwives' retention and retention in different cultural backgrounds (Rouleau et al., 2012). A meta-analysis examined the relationship between job demands- and resources-related factors and the three dimensions of burnout and found that job demands- and resources-related factors are most closely related to emotional exhaustion. The three dimensions of burnout are all related to turnover intention, organizational commitment, and job control (Lee & Ashforth, 1996). In a study of community doctors, Ma et al. (2014) found that among job demands-related factors, role confusion, and role conflict are major predictors of community doctors' burnout; among job resources-related factors, procedural fairness, and family support are conducive to alleviating burnout. The results show that burnout is significantly positively related to turnover intention. Some Chinese researchers investigated the difference between resident physicians' level of burnout and the norm, and the results showed that work autonomy

has an impact on burnout through the mediator of resilience (Liu & Wei, 2019).

Based on the above results, we hypothesize a negative relationship between midwives' burnout and turnover intention (H5). Given the hypothesis H2 that there is a negative relationship between job resources and job burnout, we hypothesize that burnout is mediating between job resources and turnover intention (H6).

Hypothesis 5 (H5): *Burnout is positively related to turnover intention.*

Hypothesis 6 (H6): *Burnout plays a mediating role in the relationship between job resources and turnover intention.*

2.6 Emotional intelligence

2.6.1 Definition of emotional intelligence

Research on emotional intelligence generally has three major schools. American psychologists Mayer and Salovey (1997) proposed the concept of emotional intelligence, which refers to the ability to perceive, evaluate, and express emotions. They emphasize the true ability of individuals to recognize, process, and utilize emotional information. Emotional intelligence is defined as the ability to perceive, evaluate, and express emotions, the ability of emotions to promote thinking, the ability to understand and analyze emotions, and to regulate and manage emotions (Mayer & Salovey, 1997). This concept has been widely accepted and applied by the academic community.

Bar-On (2012) suggests that emotional intelligence is an array of emotional, personality, and interpersonal abilities that affect an individual's ability to cope with environmental demands and stress, and that emotional intelligence ability can affect an individual's overall ability to actively and effectively respond to daily demands. Bar-On posits that emotional intelligence can develop and change as a person grows, successfully adapt to the environment along with factors such as personality traits and cognitive abilities, and can be improved through training, intervention, and correction. Bar-On advocates trait emotional intelligence, which emphasizes that emotional intelligence is an array of behavioral tendencies and the self-awareness of one's ability to recognize, process, and use emotional information.

In his book *Emotional Intelligence*, Goleman developed the theory and the basic viewpoint that emotional intelligence includes five aspects (Goleman, 1998). Goleman defines emotional intelligence as the ability to recognize one's own emotions, motivate oneself, manage one's own emotions, understand others' emotions, and manage interpersonal relationships. He posits

that emotional potential is a mediating ability that determines our innate intelligence and enables us to utilize all our abilities fully (Goleman, 1998).

From a theoretical perspective, Mayer and Salovey's emotional intelligence belongs to the ability school, advocating the psychological ability model, which is currently recognized by the academic community and will be applied in this study. Bar-On's model highlights the trait theory and is a comprehensive ability model. In easy-to-understand language, Goleman explained emotional intelligence with 5 abilities. He posits that emotional potential is a mediating ability, and the model is a comprehensive ability model.

2.6.2 Emotional intelligence as a personal resource

The Conservation of Resources (COR) theory explains individual behaviors in stressful circumstances from the perspective of resource gains and losses, making stress measurable, and describes the process of resource interactions between individuals and social environments (Hobfoll, 1989; Hobfoll & Freedy, 1993). The COR theory suggests that employees strive to acquire, maintain, and accumulate resources, which then generate other resources because specific resources can be linked to or replaced by another resource. The connections and interactions between resources are called "resource caravan passageways" (Hobfoll & Wells, 2006). In the COR theory, job demands and job resources are used to predict work attitudes and behaviors. Factors related to job demands lead to negative emotions such as emotional exhaustion and depersonalization, while factors related to job resources are positive factors that provide support for individuals and can alleviate negative emotions. The Job Demands-Resources Model, an important theoretical tool for investigating burnout and constitutes the theoretical framework of this article, was developed based on the COR theory (Alvaro et al., 2010; Brotheridge & Lee, 2002).

To meet job demands, employees need to spend a lot of resources on emotional adjustment. When emotional adjustment leads to resource imbalance, burnout can occur. When employees lack resources such as social relationships to meet job demands, it can result in emotional exhaustion (Ennis et al., 2000; Hobfoll & Wells, 2006). Researchers working with the COR theory posit that personal characteristics and organizational support can support individuals, alleviate emotional exhaustion, and prevent the generation and increase of stress.

Emotional intelligence is an important personal resource. The positive effect of emotional intelligence was proposed by Luthans et al. (2007), who posit that emotional intelligence plays a role in regulating positive organizational behavior, relieving stress, and influencing

individuals' responses to stressors. The study by Zhang and Wang (2011) has shown that emotional intelligence has a strong relationship with employee job performance. Scholars have also applied the COR theory to explain the relationship between emotional intelligence and turnover intention: employees with higher emotional intelligence have a stronger ability to relieve stress and lower turnover intention. Emotional intelligence plays a moderating role in job demands' impact on the energy depletion process through burnout; it also plays a moderating role in job resources' effect on the motivational process of organizational commitment through job engagement (Dawda & Hart, 2000; Goleman et al., 2002; Hakanen et al., 2006). There is relatively little research on the moderating effect of emotional intelligence, a stable personal trait, between job demands-resources and job control. It has been suggested that further research can be conducted to investigate the interactions between emotional intelligence and job demands-resources (Junge et al., 2008).

Emotional intelligence is a person's ability to recognize, use, understand, and control emotional information, and can promote the positive predictive effect of positive emotions on career identity (Mayer & Salovey, 1997; Mayer et al., 1999; Caruso et al., 2002). According to the COR theory, emotional intelligence, as a protective factor, may enhance the role of other protective factors (e.g., work control and career identity) (Wen et al., 2005; Li et al., 2012; Wang & Zhang, 2012). Research has shown that emotional intelligence is developable (Mayer et al., 2008) and measurable ability (Law et al., 2004; Groves et al., 2008; Bar-On, 2000), and a resource that can develop and maintain competitiveness (Luthans et al., 2007). Emotional intelligence can regulate the relationship between job demands and positive outcomes of happiness and moderate the relationship between job demands-resources and emotional exhaustion (Totterdell et al., 2011).

Based on the COR theory, we posit that emotional intelligence, as a personal resource, plays a moderating role in job resources' relationship with career identity and burnout. Specifically, we hypothesize that emotional intelligence accentuates the positive relationship between job resources and career identity and mitigates the negative relationship between job resources and burnout. Therefore, we put forward the following hypotheses.

Hypothesis 5a (H5a): *Emotional intelligence accentuates the positive relationship between job resources and career identity, such that among midwives with higher emotional intelligence, the positive relationship between job resources and career identity is stronger.*

Hypothesis 5b (H5b): *Emotional intelligence mitigates the negative relationship between job resources and burnout, such that among midwives with higher emotional intelligence, the negative relationship between job resources and burnout is weaker.*

The above hypotheses are summarized and illustrated in Hypothesized Model 1 (Figure 2.1).

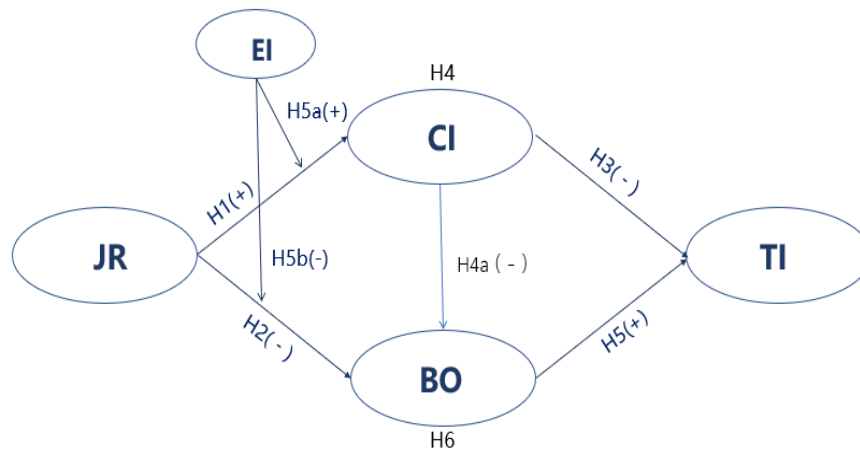


Figure 2.1 Hypothesized Model 1 in Study 1

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; EI = Emotional intelligence.

In study 1, we investigated emotional intelligence's possible moderating role in the job-demands resources model. In study 2, we further examined the moderating role of leader-member exchange (LMX) and perceived organizational support (POS) in the JD-R model as resources at the organizational level. The review of LMX and POS and the related hypotheses are discussed next.

2.7 Leader-member exchange (LMX)

2.7.1 Definition of leader-member exchange (LMX)

Leader-member exchange (LMX) is defined as the social exchange between leaders and members (Graen et al., 1975). LMX holds that positive relationships between leaders and subordinates can have positive effects, such as improving job satisfaction and efficiency (Gerstner & Day, 1997; Wang et al., 2004) and leading to more organizational citizenship behavior (Graen & Uhl-Bien, 1995).

The formation of LMX is first based on a balanced leadership model where leaders treat subordinates as peers, and the relationship between the two parties is based on expectations of each other. With the development of socialization, based on the degree to which the other party meets their expectations, leaders and subordinates develop social exchange relationships beyond the economic exchange. Over time, employees who maintain high exchange relationships are considered "in-group" or "insiders". Subordinates belonging to the in-group tend to receive more attention and support from their leaders and gain more time resources.

Subordinates with lower exchange relationships are classified as “out-groups” or “outsiders”. Their relationships with leaders are limited to the fulfillment of work responsibilities and tasks (Dienesch & Liden, 1986; Gerstner & Day, 1997). After perceiving the degree of relationship with the leaders, individuals will also respond to the attitude and support of their leaders in some ways, which may affect the individuals’ self-definition, manifested in work attitude and behavior (Bauer & Green, 1996). Chinese people especially value personal relationships, and an important source of self-definition is the perception of their personal relationships. Individuals’ perception of harmonious interpersonal relationships can affect their self-evaluation and their work attitude and behavior (Ho, 1998; Van Seters & Field, 1990).

2.7.2 Potential moderating role of LMX

How leaders treat their subordinates varies from person to person. Leaders establish different exchange relationships with different subordinates, and there is a vertical dyad linkage between the two (Graen & Cashman, 1975; Graen & Uhl-Bien, 1995). Previous studies have been conducted from different perspectives. From a domain perspective, LMX, as a relationship-based leadership structure, is considered to have three domains: leader, follower, and their relationship. Regarding construct measurement and dimensions, LMX is theorized into three dimensions, namely, respect, trust, and loyalty (Dienesch & Liden, 1986). From a hierarchical perspective, LMX is claimed to improve organizational theories' clarity, testing ability, comprehensiveness, and creativity (Graen & Uhl-Bien, 1995). Liden and Maslyn (1998) classified LMX into four dimensions: emotion, loyalty, contribution, and professional respect. That classification is widely recognized in the Western academic community. H. Wang et al. (2004) validated Liden and Maslyn’s (1998) four dimensions in the Chinese context, and the results showed that both the four-dimension and the single-dimension LMX could predict employees’ work and contextual performance, but the four-dimension LMX has a more significant predictive effect. Schriesheim et al. (1999) proposed that LMX includes three dimensions: liking, freedom, and mutual support.

The core viewpoint based on the LMX theory is that leaders have different exchange relationships with different subordinates (Graen & Uhl-Bien, 1995). Based on how subordinates are treated by their leaders, scholars have distinguished between “insiders” and “outsiders”. Leaders provide positive comments, attention, rewards, and time resources to “insiders”. However, to “outsiders”, leaders pay little attention and reward them less. In some cases, they may even give a lot of criticism and suppression, making it less possible for those employees

to want to align with the organization. Different types of treatment have different effects (Gerstner & Day, 1997).

LMX has a significant association with job performance, supervision satisfaction, overall satisfaction, commitment, role conflict, role clarity, member competence, and turnover intention (Gerstner & Day, 1997). Some scholars suggest that future research should focus more on the positive effects of leader-member exchange and pay attention to the formation process of the relationships to help leaders or their subordinates establish high-quality leadership-member relationships (Cropanzano et al., 2017). In fact, as two components of the social exchange relationship between the organization and its members, the organization and leaders jointly provide material, spiritual, and emotional support for employees and jointly influence their attitudes. When the leader-member exchange is good, employees will actively align with the organization to maintain a good relationship (Y. Huang et al., 2018).

LMX has a positive effect on promoting organizational behavior. Multiple researchers (Liden & Graen, 1980; Graen et al., 1982) found that high LMX employees have a stronger sense of responsibility and are more willing to put in the effort to achieve work goals. High LMX leaders provide more support, thereby enhancing work performance (Gerstner & Day, 1997; Ng, 2017). High LMX employees have a higher psychological commitment to the organization, with stronger citizenship and role behaviors. LMX can enhance team potential and has a positive relationship with group consistency (Boies & Howell, 2006). LMX can suppress team conflict (Boies & Howell, 2006; Zhou & Shi, 2013). Employees with high LMX have a higher emotional commitment to the organization (Du & Wang, 2002; Eisenberger et al., 2014). Lee et al. (2018) hold that LMX enables employees to gain more guidance, job information, and incentives in their interactions with leaders. Mayfield (1994) and Mayfield and Mayfield (2009) have shown that the performance of “insiders” is 20% higher than that of “outsiders”. According to Winkler (2009), “insiders” tend to develop a desire to align with the organization. A recent study (Zeng et al., 2022) suggests that high-quality LMX can help improve doctor-patient relationships, thereby increasing doctors’ work engagement and reducing turnover intention.

Based on the above research findings and the social relationship (social exchange) involved in LMX, we argue that when midwives have high-quality LMX, they are more likely to access more job resources (e.g., information and knowledge sharing, supports from leaders). According to COR theory, more job resources available may accentuate the motivation process in the JD-R model and buffer the energy depletion process. Therefore, we hypothesize that LMX plays a moderating role in job resources’ relationship with career identity and burnout.

We thus have the following hypotheses:

Hypothesis 6a (H6a): *LMX accentuates the positive relationship between job resources and career identity, such that among midwives with higher LMX, the positive relationship between job resources and career identity is stronger.*

Hypothesis 6b (H6b): *LMX mitigates the negative relationship between job resources and burnout, such that among midwives with higher LMX, the negative relationship between job resources and burnout is weaker.*

The above hypotheses are summarized and illustrated in Hypothesized Model 2-LMX (Figure 2.2).

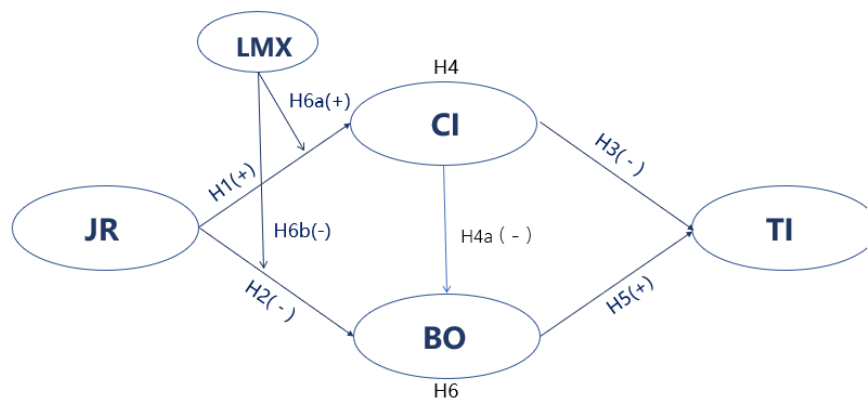


Figure 2.2 Hypothesized Model 2-LMX in Study 2

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; LMX=Leader member exchange

2.8 Perceived organizational support (POS)

2.8.1 Definition of perceived organizational support (POS)

Perceived organizational support (POS) was proposed by social psychologists Eisenberger et al. (1986). This exchange includes material and non-material exchange. Based on the theoretical concepts of social exchange, reward principles, and organizational personification, POS was developed to explain the relationship between individuals and organizations. POS refers to an individual's perception of the degree to which the organization pays attention to their contribution and living conditions. It is employees' view of how much the organization values their efforts and well-being. Employees in the organization form a comprehensive belief in the degree to which the organization values their contributions and cares about their well-being. Such perceived organizational support can reduce absenteeism. POS is believed to increase employees' emotional attachment to the organization and their expectation to be rewarded for

making greater efforts in achieving organizational goals (Eisenberger et al., 1990).

2.8.2 Potential moderating role of POS

POS can enhance employees' job satisfaction and positive work emotions, increase their work engagement, improve extra-role performance (organizational citizenship behavior) and in-role performance (job performance), relieve work pressure, enhance retention desire, and reduce turnover intention (Casimir et al., 2014). In the management of emotional commitment relationships, POS plays a full mediating role between procedural justice, emotional commitment, and trust (Jadesadalug & Tuntrabundit, 2011; Rhoades & Eisenberger, 2002). POS and peer relationships are antecedent variables of job burnout. Emotional exhaustion and low efficiency, which are dimensions of burnout, can result in a lack of POS, thereby affecting turnover intention; POS is positively related to failure-related trust between subordinates and supervisors (Eisenberger et al., 1986; Eisenberger et al., 2001; Lynch et al., 1999). POS is significantly positively related to job satisfaction and is significantly negatively related to turnover intention (Tan et al., 2007).

Through an inductive method, H. Wang and Sun (2011) came up with the five factors conducive to POS, namely, employee health benefits, salary and bonus, family benefits, employee rights and dignity, and career growth, which were put forward based on the specific cultural background of China. When an individual has a high level of POS, he/she will develop a sense of obligation to repay the organization and thus take action to help the organization achieve its goals; individuals also expect to receive more rewards from the organization, and POS satisfies individuals' social and emotional needs in many ways (Eisenberger et al., 2020; Kim et al., 2022; Kirkland et al., 2017).

A cross-cultural meta-analysis of the POS effect found that from a social exchange perspective, the POS effect is stronger in Western culture because employees tend to view themselves as independent and view their relationship with the organization from a reciprocal perspective. However, the perspective of social identity suggests that the POS effect is stronger in oriental culture, as employees tend to view themselves as interdependent and relate organizational support with their identity. In the West, POS has a stronger relationship with social exchange than organizational identification processes. In contrast, in the oriental world, POS has a stronger connection with organizational identification than social exchange processes. Overall, compared to the West, POS in the oriental world is more closely related to work attitude and performance. The cultural differences in the impact of POS on work attitudes

and outcomes have increased over time (Rockstuhl et al., 2020).

Chinese scholars (J. Yang et al., 2020) have found that medical professionals with higher engagement and organizational support have lower turnover intention. Medical professionals often have high workloads in high-risk work environments, which gives them greater work pressure. The greater the pressure, the more likely they are to perceive organizational support and attention. Among nurses in oncology departments, POS has a negative relationship with burnout and secondary traumatic stress and has a negative predictive effect on burnout (Yao et al., 2020). Nurses' POS has a mediating effect between job stress and job satisfaction, and it is a partial mediating effect. The improvement of POS can buffer the negative impact of work pressure on job satisfaction (W. Li, 2019). A survey involving more than 2500 doctors from Chinese tertiary hospitals found that there is a positive relationship between doctors' POS and professional commitment, and that POS is positively related to professional title, education level, and work experience but negatively related to geographic regions (Ou et al., 2022). Many studies in China have shown that among doctors, job burnout has a negative relationship with POS; doctors with higher levels of POS experience stronger burnout when their tendency to depression increases; POS plays a moderating role in the relationship between emotional labor and doctor-patient relationships (Zhu, 2019; R. Huang et al., 2020). Doctors' emotional labor has a good predictive effect on burnout, and POS can mitigate this effect (K. Zhang, 2011).

Results of numerous studies have supported the direct effects of job demands and resources on burnout and career identity in the JD-R model. However, due to the fact that employees' work and final turnover are a complex and lengthy process, some effects cannot be shown directly. Many scholars posit that there are mediating and moderating variables that influence the interactions (Beehr et al., 2001), and POS may serve as a mediating/moderating variable (Rodríguez et al., 2001). The social and emotional needs of employees can be realized through POS (Edwards & Peccei, 2010; Rhoades & Eisenberger, 2002). Both the organizational support theory and the psychological contract theory highlight the social exchange process in establishing and maintaining employment relationships, but they focus on different aspects of this relationship, emphasizing the interdependence between POS and psychological contracts (Aselage & Eisenberger, 2003; Eisenberger & Stinglhamber, 2011).

It can be seen that POS can predict indicators related to employees' work attitudes and behavior, such as turnover intention, and that POS can affect employees' career identity, thereby affecting their behavior and attitude towards work. Based on the characteristics of POS and the findings of previous studies, we suggest that midwives' POS reflects their perception of organizational resource support and plays a moderating role in job resources' relationship with

career identity and burnout. Therefore, we put forward the following hypotheses.

Hypothesis 7a (H7a): *POS accentuates the positive relationship between job resources and career identity, such that among midwives with higher POS, the positive relationship between job resources and career identity is stronger.*

Hypothesis 7b (H7b): *POS mitigates the negative relationship between job resources and burnout, such that among midwives with higher POS, the negative relation between job resources and burnout is weaker.*

The above hypotheses are illustrated in Hypothesized Model 2-POS (Figure 2.3).

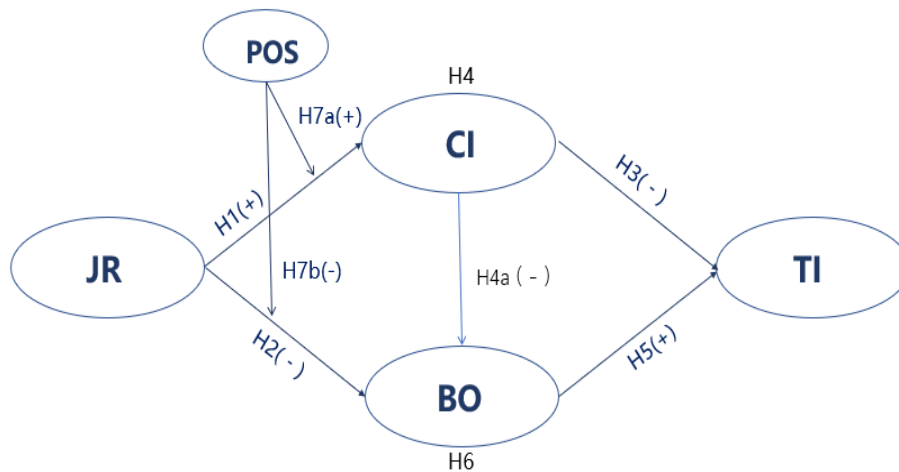


Figure 2.3 Hypothesized Model 2-POS in Study 2

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; POS=Perceived Organization support

Combining the above hypotheses with those in in Figure 2.1, we summarize all the hypotheses in Hypothesized Model 2 (Figure 2.4).

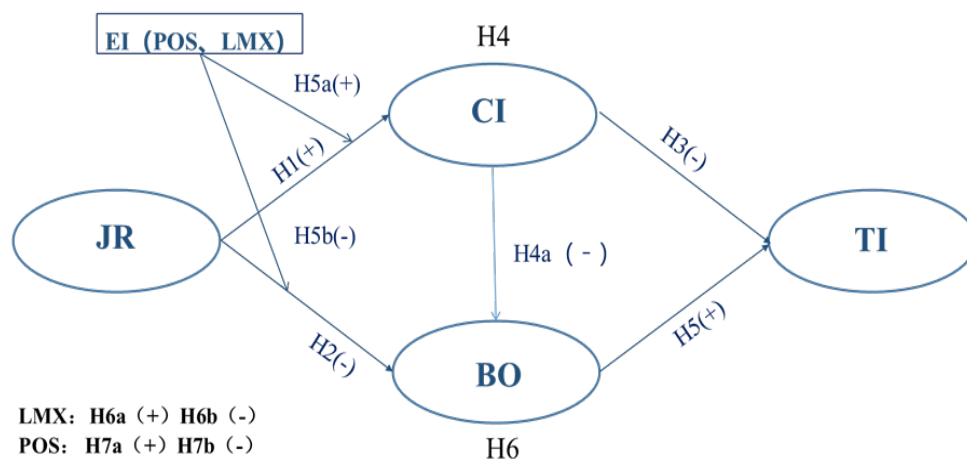


Figure 2.4 Hypothesized Model 2 in Study 2

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; POS = Perceived organizational support; LMX = Leader-member exchange.

In summary, guided by the JD-R model and COR theory, this study attempts to explore the

relationship of midwives' job resources with their career identity and turnover intention, the relationship of job resources with burnout and turnover intention, and the potential moderating effects of emotional intelligence, POS, and LMX therein. Specifically, Study 1 focuses on Hypothesized Model 1, and Study 2 examines Hypothesized Model 2. For the design and implementation of Study 1 and Study 2, please refer to Chapter 3, Research Method.

Chapter 3: Research Method

We conducted two cross-sectional studies (Study 1 and Study 2), using the convenience sampling method.

Study 1 was conducted on midwives in Shenzhen in July 2022, and data was collected through a pencil-and-paper survey. The questionnaire includes social demographic information, job resources, career identity, burnout, turnover intention, and emotional intelligence.

In Study 2, we collected data from midwives across China in September 2022, via an online survey. Compared to Study 1, there were two more variables included in the questionnaire of Study 2, namely LMX and POS. Statistical analysis was conducted using software such as SPSS 25.0 and Mplus 8. We used confirmatory factor analysis (CFA), exploratory factor analysis (EFA), and Cronbach's α coefficient to evaluate the reliability and validity of each scale. Descriptive statistical analysis, sample t tests and one-way analysis of variance (ANOVA), and structural equation modeling were employed to test the hypotheses. See Figure 3.1.

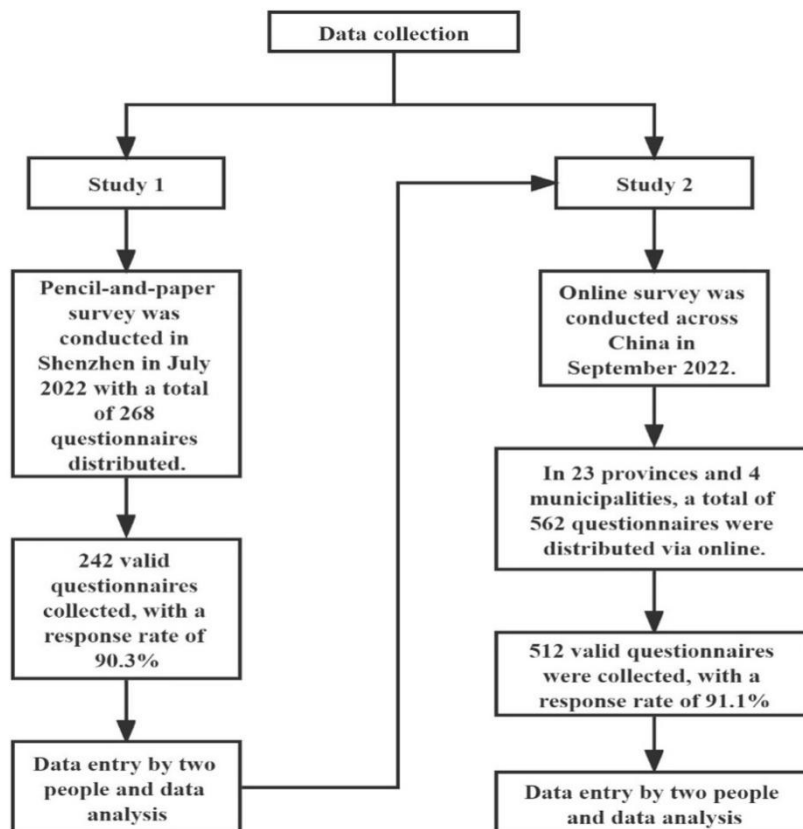


Figure 3.1 Data collection flowchart

3.1 Study 1

3.1.1 Sampling and procedure

In this study, paper questionnaires were distributed in various obstetrical and gynecological hospitals and comprehensive hospitals in Shenzhen in July 2022. They are mostly public or private hospitals at all levels. The survey subjects are on-the-job midwives, and the exclusion criteria are as follows:

Inclusion criteria: ① On-the-job midwives who possess both a nurse practitioner certificate and a maternal and infant care technical qualification certificate; ② Having worked as a midwife for at least 1 year and having the qualification and ability to deliver independently; ③ Registered at qualified medical institutions certified by the government; ④ Informed consent.

Exclusion criteria: ① Midwives and interns who are currently studying abroad or have studied abroad for more than one month within a year (not on duty); ② Midwives who are not on duty during the research period; ③ Those whose questionnaires were not successfully collected; ④ Midwives who have been administratively punished by hospitals or administrative authorities for any reason; ⑤ The total time for answering the questions is less than 200 seconds (on average less than 3 seconds for each question; the total responding time is less than that of 95% of the respondents); ⑥ Less than 95% of the items were answered, or the answers are obviously consistent choices.

Questionnaires were distributed from July 20 to 22 of 2022 in Shenzhen, right after the medical continuing education training in which the midwives participated. Prior to the questionnaire filling, we gave the respondent an introduction of the purpose and significance of this study, told them how the questionnaire should be filled and what are the precautions, and promised to keep all personal information confidential. We highlighted that the participation was voluntary, and the respondents had the right not to participate. The respondents were required to independently fill out the questionnaire and submit it within the valid time. If questions were raised during the questionnaire filling, we would provide answers on the spot. After the respondents completed the questionnaire, we collected the questionnaires and immediately conducted verification.

If the answers showed obvious regularity or the same option consistently, we would exclude the questionnaire to ensure the validity and effectiveness of the data. After collecting all the

questionnaires, we used Epidata 3.1 for data input. The data entry was carried out by two people separately, and after completion, cross-checking and logical verification were carried out. Finally, after verification, the data was exported to an Excel file for archiving and imported into SPSS 25.0 for subsequent data analysis.

Sample size calculation: Based on the practice and work criteria of the Kendall correlation coefficient for sample size estimation, the sample size is usually 5-10 times the independent variable. In this study, the variables include midwives' general demographic information (11 items), job resources, career identity, burnout, turnover intention, and emotional intelligence. There are 6 variables in total, and it is estimated that the minimum sample size required is 130. Considering the 10% sample loss rate, the sample size should be 143; in structural equation modeling, the sample size for SEM analysis should be at least 200. Given the above two requirements, this study requires a sample size of no less than 200. In Study 1, a total of 268 paper questionnaires were distributed, and 252 were collected, of which 242 were valid, with a response rate of 90.3%. In Study 2, a total of 562 online questionnaires were distributed, of which 50 were excluded for not meeting the criteria; eventually, a total of 512 valid questionnaires were collected, with a response rate of 91.1% (512/562). Both rounds exceeded the minimum sample size required.

3.1.2 Measurement

In Study 1, we used a pencil-and-paper survey, which consist of five scales, namely the job resources (JR), career identity (CI), burnout (BO), turnover Intention (TI), emotional intelligence (EI), and demographics.

3.1.2.1 Job resources (JR)

We measured midwives' job resources with nine items adopted from the scale developed by Schaufeli and Taris (2014), given Schaufeli's outstanding contributions and empirical experience in this regard. They were rated on a 6-point Likert scale, from "1 = strongly disagree" to "6 = strongly agree". A higher score indicates a higher level of job resources.

- 1) I can count on my colleagues for help and support when needed.
- 2) It is sufficiently clear what I need to do in my job.
- 3) I can deliver the quality of work that is expected by others.
- 4) I feel appreciated by the people I work for (pregnant women and their families).
- 5) I can participate in decision making about work-related issues.
- 6) I have sufficient opportunities at work to use my skills and abilities.

- 7) I have all the tools (tools, equipment, instruments, software) needed to do my job properly.
- 8) I am sufficiently informed about the developments within my organization.
- 9) My job provides opportunities for promotion.

3.1.2.2 Career identity (CI)

To measure career identity, we adopted the 4-item career identity scale developed by Tyler and McCallum (1998). Research has shown that this scale is quite suitable for healthcare professionals, and Cronbach's α coefficient is 0.913. They were scored on a 6-point Likert scale, from "1 = strongly disagree" to "6 = strongly agree". Higher scores indicate a stronger career identity. The four items for career identity are as follows:

- 1) I feel that I am a member of the midwife profession.
- 2) It is important for me to devote myself to midwife work.
- 3) If I have the chance to choose, under the same working conditions, I will choose a job that is not related to midwife.
- 4) I am happy with choosing midwife as my profession.

3.1.2.3 Burnout (BO)

We adopted the Chinese Maslach Burnout Inventory (CMBI) developed by C. Li et al. (2003) to measure job burnout. The CMBI scale is a Chinese version of the MBI scale (Maslach & Jackson, 1981), the most widely used internationally to measure burnout. It includes 15 items from three dimensions, namely emotional exhaustion, depersonalization, and decreased personal achievement. With the existing research worldwide as a reference and considering the actual status of different professions, this Chinese version of the questionnaire was developed through interviews and open-ended questionnaire surveys (Y. Li & Wu, 2005). Given that emotional exhaustion is considered the core and typical manifestation of burnout among Chinese medical professionals, its significance is more prominent in the test (C. Li et al., 2003). Considering the length of the questionnaire and the completion rate, we selected five items from the emotional exhaustion dimension for measurement. Items were scored on a 6-point Likert scale, from "1 = strongly disagree" to "6 = strongly agree". Higher scores indicate a higher level of burnout. The 5 items for burnout are as follows:

- 1) I feel burned out from my work.
- 2) I feel used up at the end of the workday.
- 3) I feel fatigued when I get up in the morning and have to face another day on the job.

- 4) Working with people all day is really a strain for me.
- 5) I feel like I'm at the end of my rope.

3.1.2.4 Turnover intention (TI)

We used three items from the voluntary turnover intention scale developed by Michael and Spector (1982). This voluntary turnover scale consists of three items, scored on a 6-point Likert scale, from “1 = strongly disagree” to “6 = strongly agree”. Higher scores indicate a higher level of turnover intention. The Cronbach's α coefficient of the scale is 0.85. The three items for turnover intention are as follows:

- 1) I am actually planning to quit my current position as a midwife.
- 2) I want to quit my midwife occupation.
- 3) I often seriously consider quitting the midwife job within a year.

3.1.2.5 Emotional intelligence (EI)

We adopted the emotional intelligence scale developed by Wong and Law (2002), which consists of 16 items in four dimensions, namely self emotional appraisal, regulation of emotion, use of emotion, and others' emotional appraisal. Each dimension contains four items. They were scored on a 6-point Likert scale, from “1 = strongly disagree” to “6 = strongly agree”. Higher scores indicate a higher level of emotional intelligence. The 16 items for emotional intelligence are as follows:

- 1) I have a good sense of why I have certain feelings most of the time.
- 2) I have good understanding of my own emotions.
- 3) I really understand what I feel.
- 4) I always know whether or not I am happy.
- 5) I always know my friends' emotions from their behavior.
- 6) I am a good observer of others' emotions.
- 7) I am sensitive to the feelings and emotions of others.
- 8) I have good understanding of the emotions of people around me.
- 9) I always set goals for myself and then try my best to achieve them.
- 10) I always tell myself I am a competent person.
- 11) I am a self-motivated person.
- 12) I would always encourage myself to try my best.
- 13) I am able to control my temper and handle difficulties rationally.
- 14) I am quite capable of controlling my own emotions.

15) I can always calm down quickly when I am very angry.

16) I have good control of my own emotions.

3.1.2.6 Social demographic information

In the questionnaire, we also collected the midwives' social demographic information, including age, obstetric job positions, marital status, professional title, years of experience as a midwife, years of service in the hospital, midwifery education, highest education level, and the number of beds in the hospital. Age, years of experience as a midwife, and years of service in the hospital are continuous variables. Time not exceeding 6 months was calculated as 0.5 years, and as 1 year if exceeding 6 months. Other variables are mostly categorical variables. Among them, obstetric job positions are categorized into four groups based on the positions usually established in Chinese hospitals: midwives in delivery rooms, midwives in obstetric wards, head nurses, and others.

The marital status includes three groups: married, single, and others (e.g., divorced). According to China's current professional title system, professional titles are categorized into five groups: junior nurse, junior nurse practitioner, nurse-in-charge, associate professor of nursing, and professor of nursing. Midwifery education is categorized into four groups based on the conventional educational levels: vocational school, college, undergraduate, and master's or above. The highest education level has three groups: college or below, undergraduate, and master's or above. The number of beds in the hospital includes "below 500", "501-1000", "1001-1500", "1501-2000", and "above 2000".

3.1.3 Reliability and validity of the scales

We first conducted confirmatory factor analysis (and exploratory factor analysis if appropriate) and reliability analysis. Then, based on the fitting results, some items were removed.

3.1.3.1 Reliability and validity of the job resources scale

The job resources scale used in this study consists of nine items. Confirmatory factor analysis results showed that the fitting degree of the job resources scale in Study 1 was not acceptable ($CMIN/DF = 4.764 < 5$, $CFI = .868 < 0.9$, $RMSEA = .125 > 0.1$, $TLI = .824 < 0.9$; see detailed results in Table a.1). After adjusting the model with AMOS and removing items 9, 10, 11, and 17, the fitting degree was significantly improved ($CMIN/DF = 4.645 < 5$, $CFI = .961 > 0.9$, $RMSEA = .123 > 0.1$, $TLI = .921 > 0.9$; see detailed results in Table a.1). Therefore, the above-mentioned items were excluded in the subsequent analysis. Then, we conducted an exploratory

factor analysis with the remaining items 12-16 on the job resources scale. We first did KMO and Bartlett tests, which showed that $KMO = .821$, and the Bartlett chi-square value was significant ($p < .001$), indicating that exploratory factor analysis is suitable. According to the results of the exploratory factor analysis (see Table a.2), there was one principal factor with an eigenvalue greater than 1, and the rotated variance was 61.145% ($> 60\%$). Results of the reliability analysis (see Table a.3) show that the overall Cronbach's α coefficient is $0.837 > 0.7$, indicating that the scale has good internal consistency and good reliability. The CITC of all items in the scale exceeded 0.5. If any item is deleted, Cronbach's α coefficient will be lower than the overall level. Therefore, all items should be retained.

3.1.3.2 Reliability and validity of the career identity scale

The career identity scale used in this study consists of three items. Since there were only three items in the scale, the number of distinct sample moments and the number of estimated parameters were both 6, and the degree of freedom, i.e., the difference between the two, was equal to 0. It is a just-identified model and has only one unique solution. Therefore, it is not meaningful to discuss the degree of fitting, and thus all items were included in the model. The reliability analysis results (see Table a.4) show that the overall Cronbach's α coefficient is 0.801 , indicating good internal consistency and reliability. The CITC of all items exceeded 0.5. If any item is deleted, Cronbach's α coefficient will be lower than the overall level. Therefore, all items should be retained.

3.1.3.3 Reliability and validity of the burnout scale

The burnout scale (emotional exhaustion) used in this study consists of five items. The results of the confirmatory factor analysis showed that the fitting degree of the burnout scale was not ideal ($CMIN/DF = 6.283 > 5$, $CFI = .972 > 0.9$, $RMSEA = .148 > 0.1$, $TLI = .944 > 0.9$; see detailed results in Table a.5). After adjusting the model with AMOS and removing item 56, the fitting degree was significantly improved ($CMIN/DF = 3.548 < 5$, $CFI = .992 > 0.9$, $RMSEA = .103 > 0.1$, $TLI = .977 > 0.9$; see detailed results in Table a.6). Therefore, in the subsequent analysis, the above-mentioned item was removed. Then, an exploratory factor analysis was conducted. We first carried out KMO and Bartlett tests, the results of which (see Table a.7) showed that $KMO = .839$, and the Bartlett chi-square value was significant ($p < .001$), indicating that exploratory factor analysis is suitable. According to the results of the exploratory factor analysis, there was one principal factor with an eigenvalue greater than 1, and the rotated variance was 79.421% ($> 60\%$). Results of the reliability analysis (see Table a.8) show that the

overall Cronbach's α coefficient is $0.914 > 0.7$, indicating that the scale has good internal consistency and good reliability. The CITC of all items in the scale exceeded 0.5. If any item is deleted, Cronbach's α coefficient will be lower than the overall level. Therefore, all items should be retained.

3.1.3.4 Reliability and validity of the turnover intention scale

The turnover intention scale used in this study consists of three items. Since there are only three items in the scale, the number of distinct sample moments and the number of estimated parameters is both 6, and the degree of freedom, i.e., the difference between the two, is equal to 0. It is a just-identified model and has only one unique solution. Therefore, it is not meaningful to discuss the fitting degree, and all items were included in the model. Results of the reliability analysis (see Table a.9) show that the overall Cronbach's α coefficient is 0.935, indicating good internal consistency and reliability. The CITC of all items in the scale exceeded 0.5. If any item is removed, Cronbach's α coefficient will be lower than the overall level. Therefore, all items should be retained.

3.1.3.5 Reliability and validity of the emotional intelligence scale

The emotional intelligence scale used in this study consists of four dimensions and 16 items. The confirmatory factor analysis results showed that the model fit was acceptable ($\text{CMIN/DF} = 2.695 < 3$, $\text{CFI} = .949 > 0.9$, $\text{RMSEA} = .084 < 0.1$, $\text{TLI} = .937 > 0.9$; see detailed results in Table a.10). Therefore, all items were included in the model for subsequent analysis. Results of the reliability analysis (see Table a.11) showed that the overall Cronbach's α coefficient is $0.941 > 0.7$, indicating that the scale has good internal consistency and good reliability. The CITC of all items in the scale exceeded 0.5. If any item is deleted, Cronbach's α coefficient will be lower than the overall level. Therefore, all items should be retained.

3.2 Study 2

There is a development unbalance in China between the east, middle, and west regions. The economic development gap between the coastal and inland regions and urban and rural areas is significant. Shenzhen, located on the southern coast of China, near Hong Kong, is a special economic zone and a well-developed first-tier city with geographical advantages and competitiveness. The sample from Shenzhen may have limitations, so expanding the sample collection area and conducting surveys in as many regions as possible across China is necessary. In Study 1, we explored the effect of job resources on career identity, burnout, and turnover

intention among midwives in Shenzhen and the moderating role of emotional intelligence as a personal resource in this path. In Study 2, in addition to emotional intelligence, we included leader-member exchange (LMX) and perceived organizational support (POS) (organizational resources), attempting to gain a more comprehensive understanding of how job resources at the organizational level may affect Chinese midwives' career identity and burnout, and ultimately affect their turnover intention.

3.2.1 Sampling and procedure

In Study 2, the survey was conducted online in September 2022. The researcher is a member of the National Midwives Branch of the China Maternal and Child Health Association and the Deputy Chairman of the Midwifery Information Construction Group. Leveraging the researcher's professional network in this field, we first made direct calls to midwife committee members (outstanding midwife representatives) from 23 provinces and 4 municipalities, explaining in detail the purpose and significance of the survey and requesting them to mobilize the on-the-job midwives in local hospitals. After obtaining their verbal commitment and consent, we sent them the QR code of the questionnaire via email. Then, they shared the information with the midwives in the local hospitals, asking them to voluntarily fill out the online questionnaire by scanning the QR code. The distribution of survey respondents is shown in Figure 3.2 and Table 3.1.

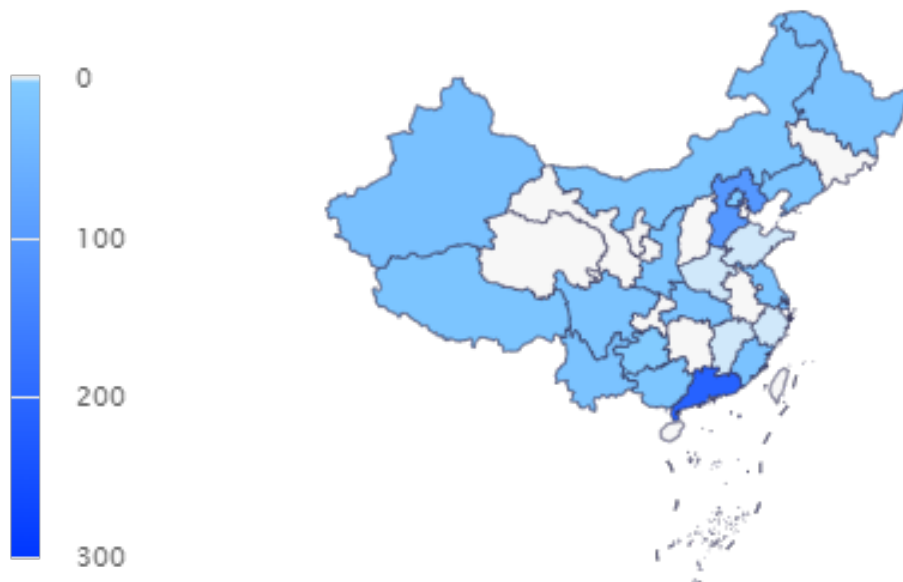


Figure 3.2 Map of China with the covered regions marked with blue (darker color indicates more participants in that region)

Table 3.1 Distribution of participants in Study 2

Province	City (district)	Hospitals	Number
Beijing	Beijing	Beijing Third Hospital, Fudan University Obstetrics and Gynecology Hospital, and Fudan University Affiliated Obstetrics and Gynecology Hospital	7
Fujian	Xiamen	Xiamen Third Hospital of Fujian Province, Xiamen First Hospital (Tong'an)	22
Guangdong	Chaozhou, Dongguan, Foshan, Guangzhou, Huizhou, Jiangmen, Jieyang, Meizhou, Shantou, Shanwei, Shenzhen, Zhanjiang, Zhuhai	Chaozhou People's Hospital, Guangdong Medical University Shunde Women's and Children's Hospital, Shantou University Second Affiliated Hospital, Shantou University First Affiliated Hospital, Shantou Traditional Chinese Medicine Hospital, Shenzhen Maternal and Child Health Hospital, Shantou Chenghai District People's Hospital, Shunde District Maternal and Child Health Hospital, Shantou Third People's Hospital, Shenzhen Sami Medical Center, Shantou Jinping District Maternal and Child Health Hospital, Meizhou Women's and Children's Hospital, Meizhou Maternal and Child Health Hospital, Shantou Chaoyang Maternal and Child Health Hospital, Shantou Third People's Hospital	214
Guangxi	Hezhou, Nanning	Zhongshan County Maternal and Child Health Hospital, Guangxi Zhuang Autonomous Region People's Hospital	14
Guizhou	Guiyang, Tongren	Zunyi People's Hospital, Zunyi Fourth People's Hospital, Guizhou Shiqian County Maternal and Child Health Hospital	3
Hebei	Baoding, Cangzhou, Handan, Hengshui, Langfang, Qinhuangdao, Shijiazhuang	Chengde Medical College Affiliated Hospital, Handan Maternal and Child Health Hospital, Hebei University Affiliated Hospital, Cangzhou People's Hospital, Yihe Obstetrics and Gynecology Hospital Area of Cangzhou People's Hospital, Shijiazhuang Obstetrics and Gynecology Hospital, Hebei Shijiazhuang Fourth Hospital, Hebei Third People's Hospital	106
Henan	Shangqiu	Shangqiu Municipal Hospital	1
Heilongjiang	Greater Khingan Mountains, Harbin, Qiqihar, Suihua	Harbin Gushi Red Cross Hospital and Harbin First People's Hospital	19
Hubei	Ezhou, Shiyan, Wuhan	Hubei Maternal and Child Health Hospital	20
Jiangsu	Nanjing, Suzhou, Suqian	Jiangsu Maternal and Child Health Hospital, Jiangsu Provincial People's Hospital, Suzhou Wuzhong People's Hospital, and Suzhou Wuzhong District People's Hospital	17
Jiangxi	Jingdezhen	Shiyan Maternal and Child Health Hospital	1
Liaoning	Benxi, Dalian, Shenyang	General Hospital Northern Theater Command, Dalian Baijia Maternity Hospital	18
Inner Mongolia	Hohhot	Inner Mongolia Autonomous Region Maternal and Child Health Hospital	14
Shandong	Liaocheng	Maternal and Child Health Care in Dongchangfu District, Liaocheng City	1
Shaanxi	Xi'an, Xianyang	Northwest Women and Children's Hospital	15
Shanghai	Shanghai	Fudan University Affiliated Obstetrics and	34

		Gynecology Hospital, Margaret Williamson Red House Hospital, Huashan Hospital	
Xichuan	Chengdu, Meishan	Chengdu Sixth People's Hospital, Chengdu Qingbaijiang District Maternal and Child Health Hospital, Meishan Maternal and Child Health Hospital, Qingbaijiang Maternal and Child Health Hospital, Sichuan University West China Second Hospital, Meishan Women's and Children's Hospital	17
Tibet	Changdu, Lhasa, Linzhi, Shigatse, Shannan, Beitun, Kashgar, Tacheng, Urumqi	Duilong Deqing District People's Hospital, Jiangzi County People's Hospital, Lhasa Maternal and Child Health Hospital, Lhasa City People's Hospital, Shigatse City Maternal and Child Health Hospital, Tibet Autonomous Region Maternal and Child Hospital, Lang County People's Hospital, Jiacha County People's Hospital, Nielamu Town Health Center, Shannan Jianmin Hospital, Yingjisha County People's Hospital in Kashgar, Xinjiang	16
Yunnan	Chuxiong, Wenshan, Yuxi	Xinping County People's Hospital, Xinping County General Hospital, Wenshan Prefecture Maternal and Child Health Hospital in Yunnan Province, Xinping Yi and Dai Autonomous County People's Hospital	23
Zhejiang	Ningbo	Shaoxing Maternal and Child Health Hospital in Zhejiang Province	19
Total			582

After the respondents submitted the questionnaires online, we downloaded the answers and conducted an initial screening. If there were missing or omitted items, the answers showed obvious regularity, or the answering time was too short, the questionnaires were removed from further analysis. If the respondent was not working in the obstetric department at that time, his/her answers were also excluded. The processed data was archived in an Excel file for subsequent data analysis.

3.2.2 Measurement

Compared to Study 1, Study 2 included two more variables, namely the leader-member exchange (LMX) and the perceived organizational support (POS).

3.2.2.1 Leader-member exchange (LMX)

Scandura et al. (1986) proposed the first scale to measure LMX. Graen and Uhl-Bien (1995) adapted it into a scale with seven items, such as “How well does your leader recognize your potential”, by which employees evaluate the quality of their relationship with their direct leader. Employees respond to the seven items based on their perception of mutual respect, trust, and obligation in their LMX. An increasing number of researchers have been using the 7-item LMX scale to investigate how the quality of LMX affects personal, interpersonal, and organizational factors such as job satisfaction, communication motivation, and organizational identity

(Hanasono, 2017) and have achieved good results. Items are scored on a 6-point Likert scale, from “1 = strongly disagree” to “6 = strongly agree”. The 7-item LMX scale has good reliability and validity, as well as good concurrent validity (Gerstner & Day, 1997; Joseph et al., 2011; Liden et al., 1993).

In this study, we applied the LMX scale developed by Scandura et al. (1986), with seven items. The questionnaire used is the Chinese version of the scale. Items were scored on a 6-point Likert scale, from “1 = strongly disagree” to “6 = strongly agree”. A higher score indicates a higher level of LMX. Through the items such as “How well does your leader recognize your potential”, employees evaluate the quality of their relationship with their direct leader. The 7-item LMX scale shows good reliability and validity and good concurrent validity (Gerstner & Day, 1997; Joseph et al., 2011; Liden et al., 1993). It is a widely used and recognized measurement scale for LMX. The seven items for LMX are as follows:

- 1) I usually know how satisfied my leader is with what I do.
- 2) I think my leader understands my problems and needs.
- 3) I think my leader recognizes well my potential.
- 4) Regardless of how much formal authority my leader has built into his/her position, he/she would use his/her power to help me solve problems in my work.
- 5) Regardless of the amount of formal authority my leader has, he/she would “bail me out,” at his/her expense.
- 6) I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so.
- 7) I have a good working relationship with my leader.

3.2.2.2 Perceived organizational support (POS)

The measurement scale used in this study is a simplified version of Rhoades and Eisenberger’s (2002) POS Scale. Six items were selected and were scored on a 6-point Likert scale, from “1 = strongly disagree” to “6 = strongly agree”. A higher score indicates a higher level of POS. We made appropriate adjustments when using the scale, replacing “company or organization” with “hospital”, as in “the hospital values my contributions”, “the hospital is always able to provide assistance when I encounter problems at work”, and “the hospital is proud of my achievements in work”. The six items of the POS scale are as follows:

- 1) The hospital values my contribution to its well-being.
- 2) The hospital strongly considers my goals and values.
- 3) Help is available from the hospital when I have a problem.

- 4) The organization really cares about my well-being (e.g., work, family, and physical & mental well-being).
- 5) The hospital takes pride in my accomplishments at work.
- 6) The hospital tries to make my job as interesting as possible.

3.2.3 Reliability and validity of the scales

In Study 2, we adopted the scales of job resources, career identity, burnout, turnover intention, and emotional intelligence used in Study 1, with some items deleted. We verified both their structural validity and internal consistency. In addition, we included the scales of LMX and POS, on which we also conducted reliability and validity analyses.

Results of the confirmatory factor analysis showed that the fitting of the job resources scale (the original items 12-16) was acceptable ($CMIN/DF = 8.114 > 5$, $CFI = .956 > 0.9$, $RMSEA = .118 > 0.1$, $TLI = .911 > 0.9$; see detailed results in Table a.12). Results of the reliability analysis showed that Cronbach's α coefficient was $0.808 > 0.7$, indicating good internal consistency (see Table a.13).

Regarding the career identity scale, only three items were retained, namely the original items 51, 53, and 55. Results of the reliability analysis (see Table a.14) showed that its overall Cronbach's α coefficient was $0.807 > 0.7$, indicating good internal consistency and high reliability.

The fitting of the burnout scale (the original items 57-60) was good ($CMIN/DF = 4.550 > 5$, $CFI = .995 > 0.9$, $RMSEA = .083 > 0.1$, $TLI = .984 > 0.9$), and the reliability analysis results showed that its Cronbach's α coefficient was $0.903 > 0.7$, indicating good internal consistency (see Table a.15).

For the turnover intention scale, only three items were retained, namely 61, 62, and 63. The reliability analysis results (see Table a.16) showed that its overall Cronbach's α coefficient was $0.935 > 0.7$, indicating good internal consistency and high reliability.

Results of the confirmatory factor analysis showed that the emotional intelligence scale (the original items 35-50) had a good fitting degree ($CMIN/DF = 3.788 > 5$, $CFI = .957 > 0.9$, $RMSEA = .074 > 0.1$, $TLI = .948 > 0.9$). Results of the reliability analysis showed that Cronbach's α coefficient was $0.935 > 0.7$, indicating good internal consistency (see Table a.17).

3.2.3.1 Reliability and validity of the LMX scale

The LMX scale used in this study consists of seven items. Through confirmatory factor analysis, the scale's fitting results are: $CMIN/DF = 12.453 > 5$, $CFI = .934 > 0.9$, $RMSEA = .150 > 0.1$,

TLI = .900 (see detailed results in Table a.18). After adjusting the model with AMOS and removing items 19 and 20, the fitting effect of the model was further improved (CMIN/DF = 9.459 > 5, CFI = .971 > 0.9, RMSEA = .129 > 0.1, TLI = .941 > 0.9; see detailed results in Table a.18). Therefore, in the subsequent analysis, the above-mentioned two items were excluded. Then, exploratory factor analysis was conducted. We first did KMO and Bartlett tests, which showed that KMO = .856, and the Bartlett chi-square value was significant ($p < .001$), indicating that exploratory factor analysis is suitable. According to the results of exploratory factor analysis, there was one principal factor with an eigenvalue greater than 1, and the rotated variance was 69.236% (> 60%). The reliability analysis results (see Table a.19) showed that its overall Cronbach's α coefficient was 0.886 > 0.7, indicating good internal consistency and reliability.

3.2.3.2 Reliability and validity of the POS scale

The POS scale used in this study consists of six items. Through confirmatory factor analysis, the scale's fitting results are: CMIN/DF = 16.374 > 5, CFI = .954 > 0.9, RMSEA = .173 > 0.1, TLI = .924 > 0.9 (see detailed results in Table a.20). After adjusting the model with AMOS and removing items 26 and 27, the fitting degree of the model was further improved (CMIN/DF = 9.775 > 5, CFI = .988 > 0.9, RMSEA = .131 > 0.1, TLI = .965 > 0.9; see detailed results in Table a.20). Therefore, in the subsequent analysis, the above-mentioned two items were excluded. Then, exploratory factor analysis was conducted. We first carried out KMO and Bartlett tests, which showed that KMO = .847 and the Bartlett chi-square value was significant ($p < .001$), indicating that exploratory factor analysis was suitable. According to the results of exploratory factor analysis, there was one principal factor with an eigenvalue greater than 1, and the rotated variance was 80.933% (> 60%). The reliability analysis results (see Table a.21) showed that its overall Cronbach's α coefficient was 0.921 > 0.7, indicating good internal consistency and reliability.

3.3 Quality control

During the questionnaire design, based on the research purpose, we conducted a relevant literature review. We consulted our supervisor and statistical experts to develop a preliminary tool suitable for the survey on midwives. Two "attention-check" items were included in the questionnaire, which helps to check whether the respondents have paid sufficient attention and given quality responses when filling in the questionnaire.

During the survey process, after obtaining the consent and support of the hospital leaders, we admitted participants in strict accordance with the inclusion and exclusion criteria. We provided an introduction of the purpose, significance, and requirements of this study and guided them on how to fill out this questionnaire. Participation was voluntary, and we strictly followed the principle of confidentiality. All the collected information was for academic research purposes only. During the data entry and analysis, all questionnaires were first screened and verified, and invalid and unqualified questionnaires with obvious regularity and consistency in answers were eliminated. The information was coded and input by two people, followed by a recheck to ensure its authenticity and reliability.

3.4 Statistical analysis strategies

In this study, we used SPSS 25.0 and AMOS 21.0 for the confirmatory factor analysis (CFA) of each scale. We conducted descriptive statistical analysis, correlation analysis, and one-way ANOVA. If the confirmatory factor analysis results showed that the scale's fitting was poor, exploratory factor analysis (EFA) would be conducted, followed by confirmatory factor analysis again for verification. The criteria for model fit indices are minimum chi-square/ $df < 3.0$, comparative fit index (CFI) > 0.90 , root mean square error of approximation (RMSEA) < 0.08 , and relative fit index (TLI) > 0.90 (Vehkalahti, 2014).

Structural equation modeling analysis was conducted with Mplus 8 to test the hypotheses. We further conducted a simple slope analysis on the moderated mediation model. We tested the indirect effect of job resources on turnover intention when the moderating variables were at different levels (-1, 0, and +1). The 95% confidence interval of the coefficients between the variables was estimated. If the 95% confidence interval did not include 0, the results would be deemed statistically significant. The test level $\alpha = .05$ (double-side) (Kline, 2015).

3.4.1 Reliability analysis

Reliability refers to the stability and consistency of a questionnaire's results by repeatedly testing the same object using the same method. The indicators for reliability include internal consistency coefficient, test-retest reliability, alternate-form reliability, and split-half reliability. This study used the internal consistency coefficient (i.e., Cronbach's α coefficient) to verify the reliability of the scales. Higher Cronbach's α indicates higher internal consistency and higher reliability. When a scale's Cronbach's α coefficient is 0.7 - 0.95, it is deemed to have good reliability; when Cronbach's $\alpha < 0.7$, the scale is deemed to have low reliability (Terwee et al.,

2006).

In this study, we used SPSS 25.0 to test the scales' internal consistency and obtain Cronbach's α coefficients. We also calculated the corrected item-total correlation (CITC) and the α coefficient after item removal. Usually, it is required that CITC is greater than 0.4, and after removing an item, the α coefficient is less than the original Cronbach's α coefficient. If the α coefficient is greater than the original Cronbach's α coefficient after removing a certain item, it is considered to delete that item.

3.4.2 Validity analysis

In this study, we used factor analysis to verify the validity of the scales. A higher validity coefficient indicates the questionnaire's better capability of measuring the required content. However, it is necessary to meet a prerequisite; that is, there must be a strong correlation between the measured variables. Moreover, two principles must be followed: (1) Kaiser-Meyer-Olkin (KMO) > 0.6 ; (2) Bartlett's test $p < 0.01$. When KMO < 0.6 , it is usually not accepted; when $0.6 < \text{KMO} < 0.7$, the results of the factor analysis are considered not ideal; when $0.7 < \text{KMO} < 0.8$, the results are considered acceptable; when $0.8 < \text{KMO} < 0.9$, the result is considered good; when KMO > 0.9 , results of the factor analysis are considered very good. Bartlett's test is used to measure the consistency of a set of variables. When $p < .05$, the factor analysis is preferred (Schreiber, 2021).

In this study, we used SPSS 25.0 and AMOS 21.0 for exploratory factor analysis and confirmatory factor analysis to verify the structural validity of the scales. The criteria are: when KMO > 0.7 , if the cumulative variance explained by the factors with factor loading greater than 0.4 and eigenvalue greater than 1 is not less than 60%, the scale is considered to have good structural validity.

3.4.3 Descriptive analysis

Descriptive statistical analysis was conducted from the collected social demographic information and data of the measured variables. The social demographic data of this study mainly include three continuous variables (age, years of experience as a midwife, and years of service in the hospital) and various categorical variables (e.g., obstetric job position, marital status, professional title, midwifery education, highest education level, and the number of beds in the hospital). Continuous variables are mainly described by mean value and standard deviation (SD). Categorical variables are mainly described by frequency and constituent ratio.

The measured variables of this study include job resources, career identity, burnout, turnover intention, emotional intelligence, LMX, and POS. The scores of all measured variables are analyzed based on the measurement data. Measurement data with normal distribution are described by mean $\pm$ SD, and measurement data with abnormal distribution are described by median (quartile interval).

3.4.4 Correlation analysis

Pearson correlation was used to indicate the correlation between job resources, career identity, burnout, turnover intention, emotional intelligence, LMX, and POS. The larger the absolute value of the Pearson correlation coefficient, the stronger the correlation between the two variables.

3.4.5 Two independent sample *t* test and one-way ANOVA

The scores of measured variables between different social demographic groups were compared. Based on the homogeneity of variance test results, corresponding methods were used to compare the differences in job resources, career identity, burnout, turnover intention, emotional intelligence, LMX, and POS scores between two or more groups. If the homogeneity of variance is met, the mean values of two independent groups are compared through two independent sample *t* tests, while the mean values of multiple independent groups are compared through one-way ANOVA. If the variance does not show homogeneity, the mean values of two independent groups are compared using corrected *t* tests, while multiple groups are compared using the Kruskal-Wallis H-test. If there is a statistically significant difference in multiple group comparison, an LSD post hoc test is conducted to compare each two.

3.4.6 Hypothesized model testing

Mplus 8 was used for structural equation modeling analysis. We first tested the mediating effect of the model. If the mediating effect was significant, we further found out whether the interaction between the independent and moderating variables is significant and whether the moderating effect is significant. If the moderating effect is significant, conditional process analysis (Hayes, 2013) is conducted to test the conditional indirect effect of job resources on turnover intention when the moderating factor is at different levels (-1, 0, and +1). The bias-corrected nonparametric percentile Bootstrap method was used (sample size = 5000) to estimate the 95% confidence interval of each coefficient. The results are deemed statistically significant

if the 95% confidence interval does not include 0. The testing level $\alpha = .05$ (double-sided).

3.4.7 Common method bias

In this study, we used the latent variable method to test for common method bias in the first and second surveys (see Table 3.2). We first included latent variables for model fitting with AMOS. Then we removed latent variables and conducted model fitting again. The fitting results of both survey models showed that there was no significant change in the fit index of the two models with and without common method latent variables, so it can be considered that there is no common method bias (Podsakoff et al., 2003).

Table 3.2 Common method bias tests

Index	Criteria	Model measured value	Goodness-of-fit	CM value	Corrected goodness-of-fit
Study 1					
CMIN/DF	<3	2.111	Very good	2.061	Very good
CFI	>0.9	.920	Very good	.924	Very good
RMSEA	<0.08	.068	Good	.066	Good
TLI	>0.9	.911	Very good	.915	Very good
Chi-square		886.808		863.377	
Study 2					
CMIN/DF	<3	2.264	Very good	2.215	Very good
CFI	>0.9	.940	Very good	.942	Very good
RMSEA	<0.08	.050	Good	.049	Good
TLI	>0.9	.934	Very good	.937	Very good
Chi-square		1618.444		1581.699	

Chapter 4: Results

This chapter has two parts, presenting the sample characteristics and the results of the correlation analysis, analysis of variance (t-test, ANOVA), and hypothesized model testing of the two studies, respectively. In the first part, structural equation modeling was used to examine the relationship between job resources and turnover intention, with career identity and burnout as mediating variables and emotional intelligence as a moderating variable. Based on the model testing in the first part, in the second part, we further added leader-member exchange (LMX) and perceived organizational support (POS) to test the relationship between job resources and turnover intention when LMX and POS serve as moderating variables, respectively.

4.1 Descriptive statistics of Study 1

A total of 242 participants were included in this survey, with an average age (mean $\pm$ SD) of 36.7 ± 7.0 years old. All respondents were female. In terms of marital status, 80.6% ($n = 195$) of the respondents were married, 16.1% ($n = 8$) were single, and the remaining 3.3% had other marital statuses (e.g., divorced). In terms of job positions, the majority of the respondents (66.1%, $n = 160$) were midwives in delivery rooms, 16.9% ($n = 41$) were midwives in obstetric wards, 9.9% ($n = 24$) were head nurses, and the remaining 17 were in other midwifery-related positions. In terms of midwifery education, more than half of the respondents (59.9%, $n = 145$) had only received midwifery education from vocational schools, 27.7% ($n = 67$) had received a college education in midwifery, 12.0% ($n = 29$) had received undergraduate education in midwifery, and only 1 person had received master's education or above in midwifery. As to the highest education level, the majority of the respondents (88.4%, $n = 214$) held a bachelor's degree, 10.7% ($n = 26$) held a college degree or below, and two held a master's degree or above.

With respect to professional titles, 4.1% were junior nurses, 24.8% were junior nurse practitioners, 62.8% were nurses-in-charge, and 8.3% were associate professors of nursing. The average (mean $\pm$ SD) years of experience as a midwife were 13.3 ± 8.4 years, and the average (mean $\pm$ SD) years of service in the hospital where they were working were 13.8 ± 7.9 years. Moreover, in terms of institutional size, 35.1% of the respondents were working in medical institutions with no more than 500 beds, 28.9% in institutions with 501-1000 beds, 18.6% in hospitals with 1001-1500 beds, 6.6% in hospitals with 1501-2000 beds, and 10.7% in hospitals

with over 2000 beds. See details in Table 4.1.

Table 4.1 Social demographic characteristics of the sample in Study 1 ($n = 242$)

Characteristics	<i>N</i>	Ratio (%)
<i>Age: years (M)</i>	36.7	7.0
<i>Marital status</i>		
Married	195	80.6
Single	39	16.1
Others (e.g., divorced)	8	3.3
<i>Job position</i>		
Midwife in delivery rooms	160	66.1
Midwife in obstetric wards	41	16.9
Head nurse	24	9.9
Other	17	7.0
<i>Midwifery education</i>		
Vocational school	145	59.9
College	67	27.7
Undergraduate	29	12.0
Master's or above	1	0.4
<i>Highest education level</i>		
College degree or below	26	10.7
Bachelor's degree	214	88.4
Master's degree or above	2	0.8
<i>Professional title</i>		
Junior nurse	10	4.1
Junior nurse practitioner	60	24.8
Nurse-in-charge	152	62.8
Associate professor of nursing	20	8.3
Professor of nursing	0	0.0
<i>Years of experience as a midwife (M)</i>	13.3	8.4
<i>Years of service in the hospital (M)</i>	13.8	7.9
<i>Institutional size (number of beds)</i>		
≤500	85	35.1
501-1000	70	28.9
1001-1500	45	18.6
1501-2000	16	6.6
>2000	26	10.7

4.2 Correlation analysis between the key variables in Study 1

Descriptive statistical analysis was first performed on the key variables. As shown by the Pearson correlation results in Table 4.2, job resources were negatively related to burnout ($r = -.279, p < .01$) and positively related to career identity ($r = .539, p < .01$). Moreover, job resources were positively related to emotional intelligence ($r = .472, p < .01$) and negatively related to turnover intention ($r = -.308, p < .01$). On the other hand, burnout was negatively related to career identity ($r = -.208, p < .01$) and emotional intelligence ($r = -.186, p < .01$) but was positively related to turnover intention ($r = .608, p < .01$). Career identity was positively related to emotional intelligence ($r = .479, p < .01$) and negatively related to turnover intention

($r = -.409, p < .01$). Emotional intelligence was negatively related to turnover intention ($r = -.206, p < .01$).

Table 4.2 Means and Pearson correlation coefficients of the main measured variables ($n = 242$)

	Mean	SD	JR	BO	CI	EI	TI
JR	4.85	0.75	(.837)				
BO	3.14	1.06	-.279**	(.914)			
CI	5.04	0.83	.539**	-.208**	(.801)		
EI	4.65	0.68	.472**	-.186**	.479**	(.941)	
TI	2.23	1.05	-.308**	.608**	-.409**	-.226**	(.935)

Note: Pearson correlation analysis: * $p < .05$, ** $p < .01$; the scale's overall Cronbach's α coefficient is presented in brackets.

4.3 Variance analyses of Study 1

The sample was grouped based on different social demographic characteristics. For the comparison between two groups, if the homogeneity of variance was significant, two independent sample t tests were performed; otherwise, corrected t tests were carried out. For the comparison between three or more groups, if the variance was homogeneous, one-way ANOVA was performed; otherwise, the Kruskal-Wallis H test was conducted. If there was a statistically significant difference in multiple group comparison, the LSD post hoc test was further performed for pairwise comparison. In this study, due to the low frequency of the “other (e.g., divorced)” group in marital status and the “master's degree or above” group in the highest education level, we merged the “other (e.g., divorced)” group with the “married” group and combined the “master's degree or above” group with the “bachelor's degree” group. Consequently, marital status and the highest education level became binary variables. Other variables, such as job position, midwifery education, professional title, and institutional size, are all multiple categorical variables.

4.3.1 Difference between groups with different marital statuses or education levels

Groups with different marital statuses and education levels passed the homogeneity of variance test on job resources, career identity, turnover intention, and emotional intelligence ($p > .05$). Therefore, two independent sample t tests were performed. The two groups with different marital statuses showed significant homogeneity of variance on burnout ($p > .05$), and thus two independent sample t test was performed. However, the two groups with different highest education levels did not pass the homogeneity of variance test on burnout ($p < .05$), and therefore, a corrected t test was performed.

In terms of marital status, the mean of job resources in the “married or other” group (4.90

± 0.73) was significantly higher than that in the “single” group (4.61 ± 0.80). However, there was no difference in the means of career identity, burnout, turnover intention, and emotional intelligence between the “single” group and the “married or other” group ($p > .05$).

Regarding the highest education level, the mean of burnout among midwives with a bachelor’s degree or above was 3.22 ± 0.97 , higher than the mean among midwives with a college degree or below (2.45 ± 1.44) ($p = .013$). Moreover, the mean of emotional intelligence among midwives with a bachelor’s degree or above (4.62 ± 0.66) was significantly lower than that among midwives with a college degree or below (4.91 ± 0.77) ($p = .035$). However, there was no significant difference in the means of job resources, career identity, and turnover intention among midwives with different highest education levels ($p > .05$), as shown in Table 4.3.

Table 4.3 Difference between groups with different marital statuses or highest education levels ($n = 242$)

Variable	Characteristic	Group	N	Mean $\pm$ SD	Homogeneity of variance		Mean comparison	
					F	p	p	MD
JR	Marital status	Single	39	4.61 $\pm$ 0.80	.856	.356	.026	-.290
		Married or other	203	4.90 $\pm$ 0.73				
	Highest education level	College degree or below	26	5.07 $\pm$ 0.73	.079	.778	.111	.247
		Bachelor’s degree or above	216	4.82 $\pm$ 0.74				
BO	Marital status	Single	39	3.26 $\pm$ 1.10	.226	.635	.456	.138
		Married or other	203	3.12 $\pm$ 1.05				
	Highest education level	College degree or below	26	2.45 $\pm$ 1.44	8.320	.004	.013	-.771
		Bachelor’s degree or above	216	3.22 $\pm$ 0.97				
CI	Marital status	Single	39	5.01 $\pm$ 0.74	1.544	.215	.815	-.034
		Married or other	203	5.04 $\pm$ 0.85				
	Highest education level	College degree or below	26	5.09 $\pm$ 0.89	.893	.345	.734	.059
		Bachelor’s degree or above	216	5.03 $\pm$ 0.83				
EI	Marital status	Single	39	4.61 $\pm$ 0.67	.442	.507	.717	-.043
		Married or other	203	4.66 $\pm$ 0.68				

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	Highest education level	College degree or below	26	4.91±0.77	2.441	120	.035	.297
		Bachelor's degree or above	216	4.62±0.66				
TI	Marital status	Single	39	2.26±1.19	.049	825	.872	.030
		Married or other	203	2.23±1.03				
	Highest education level	College degree or below	26	1.90±1.22	.331	565	.087	-.374
		Bachelor's degree or above	216	2.27±1.03				

Note: MD refers to Mean difference.

4.3.2 Difference between groups with different demographic characteristics

As shown by the results in Table 4.4, only career identity did not pass the homogeneity of variance test ($p < .05$) between different groups. Other key variables all met the conditions for one-way ANOVA, which was performed to compare the means in different demographic groups.

Regarding job resources scores, there was no significant difference between midwives with different job positions, midwifery education, and professional titles, and there was no significant difference between midwives working in medical institutions of different sizes.

As to burnout scores, there was a significant difference ($p < .05$) between midwives with different midwifery education. The burnout scores among those with a midwifery undergraduate education (3.58 ± 0.83) were significantly higher than those with a vocational school education (3.09 ± 1.02) and those with a college education in midwifery (3.06 ± 1.18). However, there was no significant difference in burnout scores between midwives with a midwifery vocational school education and those with a college education in midwifery. There was no significant difference in burnout scores among midwives with different job positions or professional titles or working in institutions of different sizes.

For career identity scores, there was no significant difference between midwives with different job positions, midwifery education, professional titles, and institutional sizes.

With respect to emotional intelligence scores, there was a significant difference ($p < .05$) between midwives with different midwifery education. The emotional intelligence scores of midwives with a midwifery college education (4.90 ± 0.67) were significantly higher than that of midwives with vocational school education (4.57 ± 0.66) and with undergraduate education in midwifery (4.47 ± 0.66), but there was no significant difference between midwives with midwifery vocational school education and those with undergraduate education in midwifery.

Similar to career identity, there was no significant difference in the score of turnover intention between midwives with different job positions, midwifery education, professional titles, and institutional sizes.

Table 4.4 Difference between groups with different demographic characteristics ($n = 242$)

Variable	Characteristic	Group	N	Mean $\pm$ SD	Homogeneity of variance	Mean comparison	
					p	F	p
JR	Job position	Midwife in delivery rooms	160	4.84 $\pm$ 0.76	.706	.667	.573
		Midwife in obstetric wards	41	4.86 $\pm$ 0.66			
		Head nurse	24	4.99 $\pm$ 0.76			
		Other	17	4.66 $\pm$ 0.80			
	Midwifery education	Vocational school	145	4.84 $\pm$ 0.70	.163	.056	.945
		College	67	4.87 $\pm$ 0.77			
		Undergraduate	30	4.82 $\pm$ 0.89			
	Professional title	Junior nurse	10	4.60 $\pm$ 0.69	.446	1.093	.353
		Junior nurse practitioner	60	4.74 $\pm$ 0.81			
		Nurse-in-charge	152	4.89 $\pm$ 0.73			
		Associate professor of nursing	20	4.96 $\pm$ 0.70			
	Institutional size	≤ 500	85	4.80 $\pm$ 0.77	.124	.370	.830
		501-1000	70	4.85 $\pm$ 0.77			
		1001-1500	45	4.95 $\pm$ 0.74			
		1501-2000	16	4.93 $\pm$ 0.49			
		>2000	26	4.80 $\pm$ 0.79			
EI	Job position	Midwife in delivery rooms	160	4.69 $\pm$ 0.67	.783	1.088	.355
		Midwife in obstetric wards	41	4.59 $\pm$ 0.68			
		Head nurse	24	4.68 $\pm$ 0.72			
		Other	17	4.39 $\pm$ 0.72			
	Midwifery education	Vocational school	145	4.57 $\pm$ 0.66 ^a	.993	6.813	.001
		College	67	4.90 $\pm$ 0.67 ^b			
		Undergraduate	30	4.47 $\pm$ 0.66 ^{ac}			
	Professional title	Junior nurse	10	4.63 $\pm$ 0.68	.669	.103	.958
		Junior nurse practitioner	60	4.69 $\pm$ 0.65			
		Nurse-in-charge	152	4.63 $\pm$ 0.71			
		Associate professor of nursing	20	4.64 $\pm$ 0.55			
	Institutional size	≤ 500	85	4.55 $\pm$ 0.70	.212	1.782	.133
		501-1000	70	4.60 $\pm$ 0.68			
		1001-1500	45	4.70 $\pm$ 0.70			
		1501-2000	16	4.76 $\pm$ 0.63			
		>2000	26	4.93 $\pm$ 0.52			

CI	Job position	Midwife in delivery rooms	160	5.10±0.88	.027	1.486	.219
		Midwife in obstetric wards	41	5.01±0.67			
	Midwifery education	Head nurse	24	4.96±0.73			
		Other	17	4.67±0.71			
		Vocational school	145	5.05±0.89	.245	.689	.503
		College	67	5.09±0.75			
		Undergraduate	30	4.88±0.73			
	Professional title	Junior nurse	10	4.83±0.61	.106	.823	.482
		Junior nurse practitioner	60	4.96±0.96			
		Nurse-in-charge	152	5.10±0.81			
		Associate professor of nursing	20	4.90±0.68			
	Institutional size	≤500	85	4.95±0.89	.418	.934	.445
		501-1000	70	5.01±0.85			
		1001-1500	45	5.24±0.76			
		1501-2000	16	5.04±0.70			
		>2000	26	5.06±0.78			
BO	Job position	Midwife in delivery rooms	160	3.18±1.01	.332	1.177	.319
		Midwife in obstetric wards	41	2.91±1.19			
	Midwifery education	Head nurse	24	3.05±1.07			
		Other	17	3.43±1.15			
		Vocational school	145	3.09±1.02 ^a	.152	3.072	.048
		College	67	3.06±1.18 ^a			
		Undergraduate	30	3.58±0.83 ^b			
	Professional title	Junior nurse	10	3.15±1.47	.368	.290	.833
		Junior nurse practitioner	60	3.22±1.03			
		Nurse-in-charge	152	3.09±1.06			
		Associate professor of nursing	20	3.26±0.92			
	Institutional size	≤500	85	2.96±1.05	.384	1.288	.275
		501-1000	70	3.18±0.95			
		1001-1500	45	3.33±1.11			
		1501-2000	16	3.41±0.97			
		>2000	26	3.14±1.27			
TI	Job position	Midwife in delivery rooms	160	2.25±1.02	.967	.618	.604
		Midwife in obstetric wards	41	2.04±1.16			
	Midwifery education	Head nurse	24	2.33±1.12			
		Other	17	2.35±0.97			
		Vocational school	145	2.23±1.04	.816	.696	.499
		College	67	2.15±1.10			
		Undergraduate	30	2.42±1.00			
		Junior nurse	10	2.30±1.47	.568	.878	.453

Professional title	Junior nurse practitioner	60	2.28±1.02			
	Nurse-in-charge	152	2.16±1.03			
	Associate professor of nursing	20	2.55±1.08			
Institutional size	≤500	85	2.20±1.01	.374	.114	.977
	501-1000	70	2.24±0.99			
	1001-1500	45	2.28±1.05			
	1501-2000	16	2.13±1.05			
	>2000	26	2.29±1.38			

Note: ^a, ^b, ^c: Consistent superscripts indicate no statistically significant difference between groups; inconsistent superscripts indicate a statistically significant difference between groups, $p < .05$.

4.4 Hypothesized model testing of Study 1

4.4.1 Goodness-of-fit

We conducted a series of model testing to rule out the possibility that alternative models are superior to the hypothesized model (see Table 4.5). For instance, the fit indices of Hypothesized Model 2 with the CI → BO path excluded were not significantly different from that of the hypothesized model ($\Delta\chi^2(1) = .470, p > .05, \Delta CFI = .000$). There was no significant difference in the fit indices between the hypothesized model and Model 3 or 4, and the fit indices of Model 5 were significantly inferior to the hypothesized model ($\Delta\chi^2(2) = 45.217, p < .01, \Delta CFI = .008$). Given the above results (see Table 4.5), we determined that the hypothesized model was the final model.

4.4.2 Hypothesis testing

In this study, we tested the hypothesized model with structural equation modeling using Mplus 8. The fit indices showed that the model had a good fitting degree ($\chi^2/df = 2.113 < 3, CFI = .920 > 0.9, TLI = .911 > 0.9, RMSEA = .068 < 0.1$) (see Table 4.5). The model is shown in Figure 4.1.

Table 4.5 Fitting degree comparison between the hypothesized model in Study 1 and alternative models

Model	χ^2	df	χ^2/df	CFI	TLI	RMSEA	SRMR	$ \Delta\chi^2 (\Delta df)$	AIC	$ \Delta CFI $
Hypothesized Model 1 (JR-CI-TI, JR-BO-TI, JR-CI-BO-TI)	891.526	422	2.113	0.92	0.911	0.068	0.065	-	15840	-
Model 2 (JR-CI-TI, JR-BO-TI)	891.996	423	2.109	0.92	0.912	0.068	0.065	.470(1)	15838	0
Model 3 (JR-CI-TI, JR-BO-TI, JR-BO-CI-TI)	891.526	422	2.113	0.92	0.911	0.068	0.065	.000(0)	15840	0
Model 4 (JR-TI, JR-CI-TI, JR-BO-TI)	891.475	422	2.113	0.92	0.911	0.068	0.065	.051(0)	15840	0
Model 5 (reverse)	936.743	424	2.209	0.912	0.904	0.071	0.103	45.217(2)**	15881	0.008

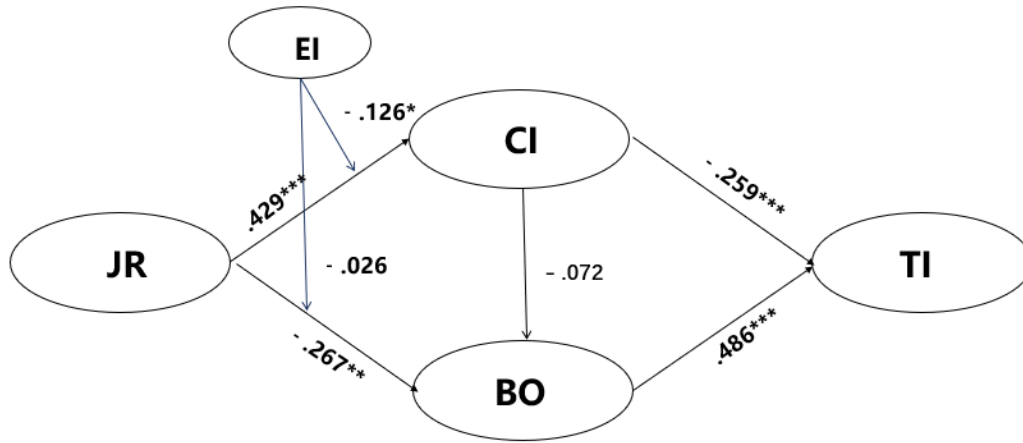


Figure 4.1 Moderated mediation model of job resources affecting turnover intention

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; EI = Emotional intelligence; ** $p < .01$, *** $p < .001$

The values of the coefficients showed that job resources were positively associated with career identity ($\beta = .429$, $p < .001$, 95% CI: [.283, .574]), and career identity was negatively associated with turnover intention ($\beta = -.259$, $p < .001$, 95% CI: [-.372, -.146]). The indirect effect of job resources on turnover intention through career identity was -.244 (95% CI: [-.387, -.100]), indicating that career identity mediated between job resources and turnover intention. Moreover, job resources were negatively associated with burnout ($\beta = -.267$, $p = .006$, 95% CI: [-.459, -.075]), and burnout was positively associated with turnover intention ($\beta = .486$, $p < .001$, 95% CI: [.389, .583]). The indirect effect of job resources on turnover intention through burnout was -.285 (95% CI: [-.510, -.059]), indicating a mediating effect of burnout between job resources and turnover intention. Furthermore, career identity was not related to burnout ($\beta = -.072$, $p = .502$, 95% CI: [-.282, .138]), and career identity and burnout did not have a sequential mediation effect between job resources and turnover intention. The above results showed that hypotheses H1, H2, H3, H4, H5, and H6 were supported, while hypothesis H4a was not. Details can be found in Table 4.6.

Table 4.6 Direct and indirect effects in the hypothesized model

Path	Direct effect			Indirect effect		
	Estimated value	LLCI	ULCI	Estimated value	LLCI	ULCI
BO->TI	.486	.389	.583	/	/	/
CI->TI	-.259	-.372	-.146	/	/	/
JR->BO	-.267	-.459	-.075	/	/	/
EI->BO	-.006	-.191	.180	/	/	/
JR*EI->BO	-.026	-.171	.119	/	/	/
CI->BO	-.072	-.282	.138	/	/	/
JR->CI	.429	.283	.574	/	/	/
EI->CI	.334	.185	.484	/	/	/
JR*EI->CI	-.126	-.243	-.008	/	/	/
JR->BO->TI	/	/	/	-.285	-.510	-.059

JR->CI->TI	/	/	/	-.244	-.387	-.100
JR->CI->BO->TI	/	/	/	-.033	-.129	.063

Emotional intelligence was directly associated with career identity ($\beta = .334, p < .001$, 95% CI: [.185, .484]), and the interaction between job resources and emotional intelligence was negatively associated with career identity ($\beta = -.126, p = .036$, 95% CI: [-.243, -.008]), indicating that emotional intelligence played a buffer role in the effect of job resources on turnover intention through career identity. As shown in Table 4.7, with low levels of emotional intelligence, the indirect effect of job resources on turnover intention was significant ($\beta_{\text{Low}} = -.404$, 95% CI: [-.664, -.143]); with medium levels of emotional intelligence, the indirect effect of job resources on turnover intention was also significant ($\beta_{\text{Medium}} = -.244$, 95% CI: [-.387, -.100]); with high levels of emotional intelligence, the indirect effect of job resources on turnover intention was not significant ($\beta_{\text{High}} = -.084$, 95% CI: [-.269, .101]). The results indicate that with lower levels of emotional intelligence, the negative indirect effect of job resources on turnover intention increases; however, the moderating effect is not significant among midwives with higher emotional intelligence. In other words, regardless of emotional intelligence, midwives who receive more job resources generally have a smaller turnover intention through the mediation of career identity; still, such a negative effect is greater among midwives with lower emotional intelligence. Based on the above results, hypotheses H5a and H5b were not supported (in H5a, we hypothesized that emotional intelligence would accentuate the positive relationship between job resources and career identity, but the results indicated a mitigating effect).

Table 4.7 The moderating role of emotional intelligence in the indirect effect of job resources on turnover intention

Path	Estimated value	LLCI	ULCI
JR->CI->TI Moderated conditional indirect effect			
Low EI (-1)	-.404	-.664	-.143
Medium EI (0)	-.244	-.387	-.100
High EI (+1)	-.084	-.269	.101
JR->BO->TI Moderated conditional indirect effect			
Low EI (-1)	-.224	-.635	.187
Medium EI (0)	-.285	-.510	-.059
High EI (+1)	-.346	-.760	.069

4.5 Descriptive statistics of Study 2

China has 34 administrative regions, including 23 provinces, 5 autonomous regions, 4 municipalities, and 2 special administrative regions. In Study 2, 582 questionnaires were collected, and a total of 512 eligible ones were included. The participants are midwives from

68 hospitals in 23 administrative regions (17 provinces, 4 autonomous regions, and 2 municipalities) across the country, with a coverage of 67% (23/34) (see Figure 3.2).

The participating midwives' average age (mean $\pm$ SD) was 33.8 ± 8.1 years old. They were all female. In terms of marital status, 72.7% ($n = 372$) of the respondents were married, 25.0% ($n = 128$) were single, and the remaining 2.3% had other marital status (e.g., divorced). In terms of job positions, 83.8% ($n = 429$) were midwives in delivery rooms, 9.4% ($n = 48$) were midwives in obstetric wards, 5.9% ($n = 30$) were head nurses, and 1.0% ($n = 5$) were in other positions related to midwifery. As to midwifery education, 25.6% ($n = 131$) of the respondents had only received vocational school education in midwifery, 46.7% ($n = 239$) had received a college education in midwifery, 27.3% ($n = 140$) had received undergraduate education in midwifery, and only two had received master's education in midwifery. With respect to the highest education level, the majority of the respondents (77.1%, $n = 395$) held a bachelor's degree, 21.9% ($n = 112$) held a college degree or below, and five held a master's degree or above.

In terms of professional titles, 14.8% ($n = 76$) were junior nurses, 39.8% ($n = 204$) were junior nurse practitioners, 38.3% ($n = 196$) were nurses-in-charge, 6.3% ($n = 32$) were associate professors of nursing, and 0.8% ($n = 4$) were professors of nursing. In terms of experience, the average (mean $\pm$ SD) years of experience as a midwife were 11.0 ± 8.7 , and the average (mean $\pm$ SD) years of service in the hospital where they were working was 11.7 ± 8.5 . Moreover, in terms of institutional size, 23.8% of the respondents were working in medical institutions with no more than 500 beds, 36.1% in medical institutions with 501-1000 beds, 16.2% in hospitals with 1001-1500 beds, 8.6% in hospitals with 1501-2000 beds, and 15.2% in hospitals with over 2000 beds. Regarding the type of employment, most respondents were non-permanent-employee midwives (71.3%, $n = 365$), and 28.7% ($n = 147$) were permanent-employee midwives. Please find the details in Table 4.8.

Table 4.8 Social demographic characteristics of the respondents in Study 2 ($n = 512$)

Characteristics	<i>N</i>	Ratio (%)
<i>Age: years (M)</i>	33.8	8.1
<i>Marital status</i>		
Married	372	72.7
Single	128	25.0
Others (e.g., divorced)	12	2.3
<i>Job position</i>		
Midwife in delivery rooms	429	83.8
Midwife in obstetric wards	48	9.4
Head nurse	30	5.9
Other	5	1.0
<i>Midwifery education</i>		

Vocational school	131	25.6
College	239	46.7
Undergraduate	140	27.3
Master's or above	2	0.4
<i>Highest education level</i>		
College degree or below	112	21.9
Bachelor's degree	395	77.1
Master's degree or above	5	1.0
<i>Professional title</i>		
Junior nurse	76	14.8
Junior nurse practitioner	204	39.8
Nurse-in-charge	196	38.3
Associate professor of nursing	32	6.3
Professor of nursing	4	0.8
<i>Years of experience as a midwife (M)</i>	11.0	8.7
<i>Years of service in the hospital (M)</i>	11.7	8.5
<i>Institutional size (number of beds)</i>		
≤500	122	23.8
501-1000	185	36.1
1001-1500	83	16.2
1501-2000	44	8.6
>2000	78	15.2
<i>Permanent employee of the institution</i>		
Yes	147	28.7
No	365	71.3

4.6 Correlation analysis between the key variables in Study 2

As shown in Table 4.9, we conducted descriptive statistical analysis on the main variables and calculated the mean and standard deviation (SD), as well as the Pearson correlation coefficients of each two variables. As shown in the Pearson correlation coefficients in Table 4.9, job resources were negatively related to burnout ($r = -.262, p < .01$) and positively related to career identity ($r = .490, p < .01$). Job resources were also positively associated with emotional intelligence, LMX, and POS, with correlation coefficients of $r = .448, r = .537, r = .529$, respectively (all p values $< .01$). Moreover, job resources were negatively related to turnover intention ($r = -.271, p < .01$). Furthermore, burnout was negatively related to career identity ($r = -.257, p < .01$). It was also negatively related to emotional intelligence ($r = -.169, p < .01$), LMX ($r = -.312, p < .01$), and POS ($r = -.394, p < .01$). Burnout was positively associated with turnover intention, with a correlation coefficient of $r = .711 (p < .01)$. Career identity was positively associated with LMX ($r = .409, p < .01$). It was also positively related to emotional intelligence and POS, with correlation coefficients of $r = .540, r = .350$, respectively (both p values $< .01$). Career identity was negatively related to turnover intention ($r = -.406, p < .01$). LMX was positively associated with POS ($r = .622, p < .01$) and emotional intelligence ($r = .425,$

$p < .01$) and negatively associated with turnover intention ($r = -.319, p < .01$). POS was positively related to emotional intelligence ($r = .324, p < .01$) and negatively related to turnover intention ($r = -.392, p < .01$). Emotional intelligence was negatively associated with turnover intention ($r = -.194, p < .01$).

Table 4.9 Means and Pearson correlation coefficients of the main measured variables ($n = 512$)

	Mean	SD	JR	BO	CI	LMX	POS	EI	TI
JR	4.64	0.80	1						
BO	3.48	1.23	-.262**	1					
CI	5.05	0.83	.490**	-.257**	1				
LMX	4.22	0.99	.537**	-.312**	.409**	1			
POS	3.72	1.16	.529**	-.394**	.350**	.622**	1		
EI	4.61	0.64	.448**	-.169**	.540**	.425**	.324**	1	
TI	2.42	1.16	-.271**	.711**	-.406**	-.319**	-.392**	-.194**	1

4.7 Variance analyses of Study 2

4.7.1 Difference between groups with different marital statuses, highest education levels, or types of employment

As shown in Table 4.10, career identity, burnout, turnover intention, LMX, and POS all passed the homogeneity of variance test ($p > .05$) between groups with different marital statuses, highest education levels, and types of employment. Therefore, two independent sample t tests were performed. Job resources passed the homogeneity of variance test ($p > .05$) between groups with different marital statuses and highest education levels, and thus we conducted two independent sample t tests. However, job resources did not pass the homogeneity of variance test ($p < .05$) between groups with different types of employment, and therefore, a corrected t test was performed. For a similar reason, a corrected t test was performed to compare the emotional intelligence of the two groups with different types of employment.

In terms of marital status, there was no significant difference in the means of job resources, career identity, burnout, turnover intention, emotional intelligence, LMX, and POS between the “single” group and the “married or other” group ($p > .05$). Similarly, in terms of the highest education level, there was no significant difference in the means of the main variables between the “college degree or below” group and the “bachelor’s degree or above” group ($p > .05$).

With respect to the type of employment, there was a significant difference in the means of LMX and POS between non-permanent and permanent-employee midwives. The mean of the “permanent employee” group was 4.03 ± 1.04 , significantly lower than that of the “non-permanent employee” group ($4.29 \pm 0.97, p = .009$). The mean of POS in the “permanent

employee” group (4 ± 1.14) was significantly lower than that in the “non-permanent employee” group (3.79 ± 1.16 , $p = .024$). There was no significant difference in the means of job resources, career identity, burnout, turnover intention, and emotional intelligence between groups with different types of employment ($p > .05$).

Table 4.10 Difference between groups with different marital statuses, highest education levels, or types of employment ($n = 512$)

Variable	Characteristic	Group	N	Mean±SD	Homogeneity of variance		Mean comparison	
					F	P	P	MD
JR	Marital status	Single	128	4.53±0.75	.615	.433	.073	.147
		Married or other	384	4.68±0.81				
	Highest education level	College degree or below	112	4.63±0.78	.158	.691	.890	-.012
		Bachelor's degree or above	400	4.64±0.81				
	Type of employment	Permanent employee	147	4.56±0.88	4.838	.028	.158	-.117
		Non-permanent employee	365	4.68±0.77				
BO	Marital status	Single	128	3.66±1.25	.118	.731	.061	-.234
		Married or other	384	3.42±1.22				
	Highest education level	College degree or below	112	3.58±1.16	1.095	.296	.320	.130
		Bachelor's degree or above	400	3.45±1.25				
	Type of employment	Permanent employee	147	3.53±1.16	.891	.346	.599	.063
		Non-permanent employee	365	3.46±1.26				
CI	Marital status	Single	128	4.96±0.88	1.276	.259	.168	.116
		Married or other	384	5.08±0.81				
	Highest education level	College degree or below	112	5.06±0.82	.011	.917	.934	.007
		Bachelor's degree or above	400	5.05±0.83				
	Type of employment	Permanent employee	147	4.99±0.83	<.001	.992	.266	-.084
		Non-permanent employee	365	5.07±0.83				

The Relationships between Job Resources, Career Identity, Burnout, and Turnover Intention

LMX	Marital status	Single	128	4.19±0.99	.057	.811	.743	.033
		Married or other	384	4.22±1.00				
	Highest education level	College degree or below	112	4.20±0.96	1.924	.166	.818	-.025
		Bachelor's degree or above	400	4.22±1.01				
	Type of employment	Permanent employee	147	4.03±1.04	.194	.660	.009	-.255
		Non-permanent employee	365	4.29±0.97				
POS	Marital status	Single	128	3.75±1.15	.116	.734	.692	-.047
		Married or other	384	3.71±1.16				
	Highest education level	College degree or below	112	3.74±1.11	.241	.623	.835	.026
		Bachelor's degree or above	400	3.71±1.17				
	Type of employment	Permanent employee	147	3.54±1.14	.015	.901	.024	-.254
		Non-permanent employee	365	3.79±1.16				
EI	Marital status	Single	128	4.57±0.66	.205	.651	.418	.053
		Married or other	384	4.63±0.64				
	Highest education level	College degree or below	112	4.63±0.64	.100	.752	.676	.029
		Bachelor's degree or above	400	4.61±0.64				
	Type of employment	Permanent employee	147	4.53±0.58	5.313	.022	.054	-.114
		Non-permanent employee	365	4.64±0.66				
TI	Marital status	Single	128	2.40±1.21	.839	.360	.884	.017
		Married or other	384	2.42±1.15				
	Highest education level	College degree or below	112	2.39±1.13	.315	.575	.760	-.038
		Bachelor's degree or above	400	2.43±1.17				
	Type of employment	Permanent employee	147	2.52±1.17	.149	.700	.206	.144

Non- permanent employee	365	2.38±1.16
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4.7.2 Difference between groups with different demographic characteristics

As shown by the results in Table 4.11, except that turnover intention did not pass the homogeneity of variance test ($p < .05$) between groups with different midwifery education, one-way ANOVA was suitable for comparing the means of all other main variables between different demographic groups.

Regarding job resources and burnout scores, there was no significant difference between groups with different job positions, midwifery education, and professional titles, and there was no significant difference between midwives working in institutions of different sizes.

In terms of career identity scores, there was a significant difference between groups with different job positions ($p < .05$). In particular, career identity scores among midwives in delivery rooms (5.08 ± 0.81) and head nurses (5.18 ± 0.79) were significantly higher than that among midwives in obstetric wards (4.75 ± 0.90). However, there was no significant difference in career identity scores between groups with different midwifery education, professional titles, and institutional sizes.

There was a significant difference in the scores of LMX between groups with different job positions. Midwives in delivery rooms (4.26 ± 0.99) had significantly higher LMX scores than those in obstetric wards (3.87 ± 1.02). Similarly, the means of emotional intelligence among midwives in delivery rooms (4.63 ± 0.65) and head nurses (4.68 ± 0.52) were significantly higher than that among midwives in obstetric wards (4.39 ± 0.59). However, there was no significant difference in LMX and emotional intelligence scores between groups with different midwifery education, professional titles, and institutional sizes.

There was no significant difference in POS and turnover intention scores between groups with different job positions, midwifery education, professional titles, and institutional sizes.

Table 4.11 Difference between groups with different job positions, midwifery education, professional titles, and institutional sizes ($n = 512$)

Variable	Characteristic	Group	N	Mean±SD	Homogeneity of variance	Mean comparison	
					P	F	P
JR	Job position	Midwife in delivery rooms	429	4.62±0.80	.978	2.647	.072
		Midwife in obstetric wards	53	4.61±0.79			
		Head nurse	30	4.97±0.79			

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BO	Midwifery education	Vocational school	131	4.69±0.81	.848	1.077	.341
		College	239	4.66±0.77			
	Professional title	Undergraduate	142	4.56±0.84	.291	1.171	.320
		Junior nurse	76	4.58±0.70			
		Junior nurse practitioner	204	4.69±0.83			
		Nurse-in-charge	196	4.59±0.79			
		Associate professor of nursing or above	36	4.81±0.91			
	Institutional size	≤500	122	4.59±0.82	.633	.759	.552
		501-1000	185	4.61±0.80			
		1001-1500	83	4.66±0.89			
		1501-2000	44	4.80±0.70			
		>2000	78	4.70±0.73			
	Job position	Midwife in delivery rooms	429	3.45±1.25	.968	.907	.404
		Midwife in obstetric wards	53	3.62±1.06			
		Head nurse	30	3.68±1.15			
	Midwifery education	Vocational school	131	3.47±1.13	.209	.389	.678
		College	239	3.53±1.25			
	Professional title	Undergraduate	142	3.41±1.29	.754	2.096	.100
		Junior nurse	76	3.66±1.19			
		Junior nurse practitioner	204	3.52±1.26			
		Nurse-in-charge	196	3.33±1.22			
		Associate professor of nursing or above	36	3.71±1.13			
	Institutional size	≤500	122	3.70±1.19	.728	2.128	.076
		501-1000	185	3.45±1.28			
		1001-1500	83	3.21±1.12			
		1501-2000	44	3.39±1.20			
		>2000	78	3.55±1.25			
CI	Job position	Midwife in delivery rooms	429	5.08±0.81a	.415	4.201	.016
		Midwife in obstetric wards	53	4.75±0.90b			
		Head nurse	30	5.18±0.79ac			
	Midwifery education	Vocational school	131	5.14±0.72	.095	1.339	.263
		College	239	5.05±0.88			
	Professional title	Undergraduate	142	4.98±0.83	.251	1.867	.134
		Junior nurse	76	4.86±0.96			
		Junior nurse practitioner	204	5.12±0.78			
		Nurse-in-charge	196	5.04±0.82			

		Associate professor of nursing or above	36	5.13±0.76			
	Institutional size	≤500	122	5.13±0.77	.873	.968	.424
		501-1000	185	4.98±0.87			
		1001-1500	83	5.12±0.84			
		1501-2000	44	5.12±0.78			
		>2000	78	4.97±0.82			
LMX	Job position	Midwife in delivery rooms	429	4.26±0.99a	.740	3.743	.024
		Midwife in obstetric wards	53	3.87±1.02b			
	Midwifery education	Head nurse	30	4.18±1.00ab			
		Vocational school	131	4.15±0.98	.408	.772	.463
		College	239	4.27±0.97			
		Undergraduate	142	4.18±1.05			
	Professional title	Junior nurse	76	1.10±0.94	.286	1.186	.314
		Junior nurse practitioner	204	4.31±1.00			
		Nurse-in-charge	196	4.18±1.02			
		Associate professor of nursing or above	36	4.11±0.93			
	Institutional size	≤500	122	4.11±1.05	.844	.933	.444
		501-1000	185	4.19±1.00			
		1001-1500	83	4.31±0.91			
		1501-2000	44	4.20±1.05			
		>2000	78	4.35±0.95			
POS	Job position	Midwife in delivery rooms	429	3.72±1.19	.728	.082	.921
		Midwife in obstetric wards	53	3.66±0.95			
	Midwifery education	Head nurse	30	3.75±1.08			
		Vocational school	131	3.65±1.17	.234	1.268	.282
		College	239	3.81±1.10			
		Undergraduate	142	3.64±1.24			
	Professional title	Junior nurse	76	3.85±1.10	.257	.587	.624
		Junior nurse practitioner	204	3.74±1.15			
		Nurse-in-charge	196	3.67±1.21			
		Associate professor of nursing or above	36	3.60±1.03			
	Institutional size	≤500	122	3.54±1.24	.633	1.262	.284
		501-1000	185	3.78±1.12			
		1001-1500	83	3.68±1.11			
		1501-2000	44	3.74±1.14			
		>2000	78	3.88±1.15			

EI	Job position	Midwife in delivery rooms	429	4.63±0.65a	.294	3.673	.026
		Midwife in obstetric wards	53	4.39±0.59b			
	Midwifery education	Head nurse	30	4.68±0.52ac	.889	.450	.638
		Vocational school	131	4.63±0.63			
		College	239	4.63±0.65			
	Professional title	Undergraduate	142	4.57±0.64	.138	2.515	.058
		Junior nurse	76	4.54±0.71			
		Junior nurse practitioner	204	4.71±0.63			
		Nurse-in-charge	196	4.55±0.65			
		Associate professor of nursing or above	36	4.57±0.48			
	Institutional size	≤500	122	4.64±0.68	.903	.356	.840
		501-1000	185	4.57±0.65			
		1001-1500	83	4.65±0.62			
		1501-2000	44	4.62±0.63			
		>2000	78	4.63±0.60			
TI	Job position	Midwife in delivery rooms	429	2.36±1.18	.309	2.698	.068
		Midwife in obstetric wards	53	2.70±0.97			
	Midwifery education	Head nurse	30	2.66±1.22	.044	.105	.900
		Vocational school	131	2.38±1.07			
		College	239	2.43±1.21			
	Professional title	Undergraduate	142	2.43±1.18	.148	1.171	.320
		Junior nurse	76	2.45±1.20			
		Junior nurse practitioner	204	2.44±1.22			
		Nurse-in-charge	196	2.33±1.11			
		Associate professor of nursing or above	36	2.70±1.09			
	Institutional size	≤500	122	2.63±1.18	.900	2.165	.072
		501-1000	185	2.37±1.17			
		1001-1500	83	2.17±1.09			
		1501-2000	44	2.36±1.13			
		>2000	78	2.50±1.20			

Note: ^{a, b, c}: Consistent superscripts indicate no statistically significant difference between groups; inconsistent superscripts indicate a statistically significant difference between groups, $p < .05$.

4.8 Hypothesized model testing of Study 2

4.8.1 Comparison with alternative models

To exclude the possibility that alternative models are superior to the hypothesized model, we

conducted a series of model tests (see Table 4.12). With EI as a moderating variable, the fit indices of Model 2 with the CI → BO path excluded were inferior to that of the hypothesized model ($\Delta\chi^2(1) = 8.631, p < .01, \Delta CFI = .001$). There was no significant difference in the fit indices between the hypothesized model and Model 3 or 4, while the fit indices of Model 5 were significantly inferior to the hypothesized model ($\Delta\chi^2(2) = 145.439, p < .01, \Delta CFI = .013$). With LMX or POS as moderating variables, the fitting comparison results were consistent with the above, that the hypothesized model was superior or not inferior to other models. Given the above results, the hypothesized model was chosen as the final model in the subsequent analysis.

Table 4.12 Fitting degree comparison between the hypothesized model in Study 2 and alternative models

Model	χ^2	df	χ^2/df	CFI	TLI	RMSEA	SRMR	$ \Delta\chi^2 $ (Δdf)	AIC	$ \Delta CFI $
Model with EI as a moderating variable										
Hypothesized model (JR-CI-TI, JR-BO-TI, JR-CI-BO-TI)	1041.209	422	2.467	0.945	0.939	0.054	0.053	-	35058	-
Model 2 (JR-CI-TI, JR-BO-TI)	1049.84	423	2.482	0.944	0.939	0.054	0.055	8.631(1)**	35064	0.001
Model 3 (JR-CI-TI, JR-BO-TI, JR-BO-CI-TI)	1041.209	422	2.467	0.945	0.939	0.054	0.053	.000(0)	35058	0
Model 4 (JR-TI, JR-CI-TI, JR-BO-TI)	1047.095	422	2.481	0.944	0.939	0.054	0.054	5.886(0)	35064	0.001
Model 5 (reverse)	1186.648	424	2.799	0.932	0.926	0.059	0.101	145.439(2)**	35199	0.013
Model with LMX as a moderating variable										
Hypothesized model (JR-CI-TI, JR-BO-TI, JR-CI-BO-TI)	410.386	162	2.533	0.959	0.952	0.055	0.041	-	26411	-
Model 2 (JR-CI-TI, JR-BO-TI)	416.53	163	2.555	0.958	0.951	0.055	0.045	6.144(1)*	26415	0.001
Model 3 (JR-CI-TI, JR-BO-TI, JR-BO-CI-TI)	410.386	162	2.533	0.959	0.952	0.055	0.041	.000(0)	26411	0
Model 4 (JR-TI, JR-CI-TI, JR-BO-TI)	414.293	162	2.557	0.959	0.951	0.055	0.044	3.907(0)	26415	0
Model 5 (reverse)	468.072	164	2.854	0.95	0.942	0.06	0.07	57.686(2)**	26465	0.009
Model with POS as a moderating variable										
Hypothesized model (JR-CI-TI, JR-BO-TI, JR-CI-BO-TI)	382.479	144	2.656	0.961	0.954	0.057	0.041	-	25004	-
Model 2 (JR-CI-TI, JR-BO-TI)	389.42	145	2.686	0.961	0.953	0.057	0.045	6.941(1)**	25008	0
Model 3 (JR-CI-TI, JR-BO-TI, JR-BO-CI-TI)	382.479	144	2.656	0.961	0.954	0.057	0.041	.000(0)	25004	0
Model 4 (JR-TI, JR-CI-TI, JR-BO-TI)	387.588	144	2.692	0.961	0.953	0.057	0.044	5.109(0)	25009	0
Model 5 (reverse)	419.68	146	2.875	0.956	0.948	0.061	0.059	37.201(2)**	25037	0.005

4.8.2 Mediation model with emotional intelligence as a moderating variable

We first used Mplus 8 to retest the hypothesized model of Study 1 with structural equation modeling. The fit indices showed that the model had a good fitting degree ($\chi^2/DF = 2.467 < 3$, CFI = .945 > 0.9, TLI = .945 > 0.9, RMSEA = .054 < 0.1). The model is presented in Figure 4.2.

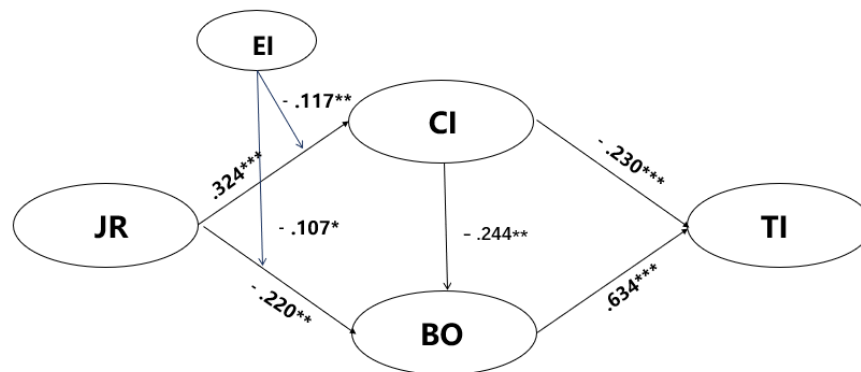


Figure 4.2 Moderated mediation model of job resources influencing turnover intention (moderator: emotional intelligence)

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; EI = Emotional intelligence; ** $p < .01$, *** $p < .001$.

The coefficients showed that job resources were positively associated with career identity ($\beta = .324$, $p < .001$, 95% CI: [.222, .427]), and career identity was negatively associated with turnover intention ($\beta = -.230$, $p < .001$, 95% CI: [-.305, -.155]). The indirect effect of job resources on turnover intention through career identity was -.180 (95% CI: [-.265, -.095]), indicating that career identity played a mediating role between job resources and turnover intention. Moreover, job resources were negatively associated with burnout ($\beta = -.220$, $p < .001$, 95% CI: [-.350, -.090]), and burnout was positively associated with turnover intention ($\beta = .634$, $p < .001$, 95% CI: [.578, .690]). The indirect effect of job resources on turnover intention through burnout was -.336 (95% CI: [-.545, -.127]), indicating that burnout played a mediating role between job resources and turnover intention. In addition, career identity was negatively associated with burnout ($\beta = -.244$, $p < .002$, 95% CI: [-.401, -.087]), and the indirect effect of job resources on turnover intention through career identity and burnout was -.121 (95% CI: [-.208, -.033]), which confirmed the sequential mediation effect of career identity and burnout between job resources and turnover intention. The above results supported the hypotheses H1, H2, H3, H4, H4a, H5, and H6. Detailed results are presented in Table 4.13.

Table 4.13 Direct and indirect effects in the hypothesized model with EI as a moderating variable

Path	Direct effect			Indirect effect		
	Estimated value	LLCI	ULCI	Estimated value	LLCI	ULCI
BO->TI	.634	.578	.690	/	/	/
CI->TI	-.230	-.305	-.155	/	/	/
JR->BO	-.220	-.350	-.090	/	/	/
EI->BO	.101	-.045	.246	/	/	/
JR*EI->BO	-.107	-.211	-.003	/	/	/
CI->BO	-.244	-.401	-.087	/	/	/
JR->CI	.324	.222	.427	/	/	/
EI->CI	.484	.386	.581	/	/	/
JR*EI->CI	-.117	-.203	-.032	/	/	/
JR->BO->TI	/	/	/	-.336	-.545	-.127
JR->CI->TI	/	/	/	-.180	-.265	-.095
JR->CI->BO->TI	/	/	/	-.121	-.208	-.033

In addition, emotional intelligence was directly related to career identity ($\beta = .484, p < .001$, 95% CI: [.386, .581]), and the interaction between job resources and emotional intelligence was negatively related to career identity ($\beta = -.117, p = .007$, 95% CI: [-.203, -.032]), indicating that emotional intelligence played a buffer role in the effect of job resources on turnover intention through career identity. As shown in Table 4.14, with low levels of emotional intelligence, the indirect effect of job resources on turnover intention through career identity was significant ($\beta_{\text{Low}} = -.363$, 95% CI: [-.560, -.166]); with moderate levels of emotional intelligence, the indirect effect of job resources on turnover intention was significant ($\beta_{\text{Medium}} = -.180$, 95% CI: [-.265, -.095]); with high levels of emotional intelligence, the indirect effect of job resources on turnover intention was not significant ($\beta_{\text{High}} = .004$, 95% CI: [-.147, .154]). The above results indicate that in the case of lower emotional intelligence, the indirect effect of job resources on turnover intention through career identity increases; however, this moderating effect is not significant among midwives with higher emotional intelligence. In other words, regardless of emotional intelligence, midwives with more job resources generally have less turnover intention through the mediating effect of career identity, but this negative effect is greater among midwives with lower emotional intelligence.

The results showed that the interaction between job resources and emotional intelligence was negatively associated with burnout ($\beta = -.107, p = .043$, 95% CI: [-.211, -.003]), indicating that emotional intelligence played a buffer role in the effect of job resources on turnover intention through burnout. With a medium ($\beta_{\text{Medium}} = -.336$, 95% CI: [-.545, -.127]) or high level of emotional intelligence ($\beta_{\text{High}} = -.798$, 95% CI: [-1.310, .286]), the indirect effect of job resources on turnover intention was significant. Besides, emotional intelligence played a buffer role in the sequential mediation effect of career identity and burnout. With low levels of emotional intelligence, the indirect effect of job resources on turnover intention through the

sequential mediation of career identity and burnout was significant (β Low = -.244, 95% CI: [-.439, -.049]); with medium levels of emotional intelligence, such an indirect effect was also significant (β Medium = -.121, 95% CI: [-.208, -.033]) (see Table 4.14).

Table 4.14 The moderating role of emotional intelligence in the indirect effect of job resources on turnover intention

Path	Estimated value	LLCI	ULCI
JR->CI->TI Moderated conditional indirect effect			
Low EI (-1)	-.363	-.560	-.166
Medium EI (0)	-.180	-.265	-.095
High EI (+1)	.004	-.147	.154
JR->BO->TI Moderated conditional indirect effect			
Low EI (-1)	.126	-.372	.624
Medium EI (0)	-.336	-.545	-.127
High EI (+1)	-.798	-1.310	-.286
JR->CI->BO->TI Moderated conditional indirect effect			
Low EI (-1)	-.244	-.439	-.049
Medium EI (0)	-.121	-.208	-.033
High EI (+1)	.003	-.099	.104

The above results further confirmed the hypothesized model in Study 1, indicating that job resources were negatively associated with turnover intention through the mediation of career identity and burnout, and that emotional intelligence played a moderating role in the model. However, contrary to the hypothesized accentuating effect of emotional intelligence in the relationship between job resources and career identity, the results indicated a mitigating effect. According to the above results, hypothesis H5a was not supported, while hypothesis H5b was supported.

4.8.3 Mediation model with LMX as a moderating variable

In the survey of Study 2, we included two more variables, namely, LMX and POS, to find out if they (instead of emotional intelligence) played a moderating role in the effect of job resources on turnover intention. With LMX as a moderating variable, the model fit indices indicated a good fitting degree ($\chi^2/df = 2.533 < 3$, CFI = .959 > 0.9, TLI = .952 > 0.9, RMSEA = .055 < 0.1). The model is presented in Figure 4.3.

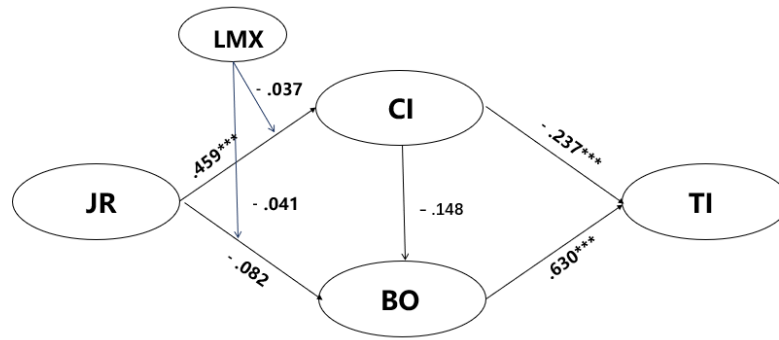


Figure 4.3 Moderated mediation model of job resources influencing turnover intention (moderator: LMX)

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; LMX = Leader-member exchange; ** $p < .01$, *** $p < .001$.

The coefficients showed that job resources were positively associated with career identity ($\beta = .459, p < .001$, 95% CI: [.338, .580]), and career identity was negatively associated with turnover intention ($\beta = -.237, p < .001$, 95% CI: [-.311, -.163]). The indirect effect of job resources on turnover intention through career identity was $-.268$ (95% CI: [-.384, -.152]), confirming that career identity played a mediating role between job resources and turnover intention. However, job resources were not significantly associated with burnout ($\beta = -.082, p = .274$, 95% CI: [-.228, .065]), indicating that burnout did not have a mediating effect between job resources and turnover intention. Moreover, career identity was negatively associated with burnout ($\beta = -.148, p = .018$, 95% CI: [-.271, -.026]). The sequential mediation model of job resources influencing turnover intention through career identity and burnout was confirmed, with an indirect effect of $-.106$ (95% CI: [-.200, -.011]). The above results supported the hypotheses H1, H2, H2a, H3, H4, and H4a. Please refer to Table 4.15 for details.

Table 4.15 Direct and indirect effects in the hypothesized model with LMX as a moderating variable

Path	Direct effect			Indirect effect		
	Estimated value	LLCI	ULCI	Estimated value	LLCI	ULCI
BO->TI	.630	.573	.686	/	/	/
CI->TI	-.237	-.311	-.163	/	/	/
JR->BO	-.082	-.228	.065	/	/	/
LMX->BO	-.231	-.354	-.107	/	/	/
JR*LMX->BO	-.041	-.125	.042	/	/	/
CI->BO	-.148	-.271	-.026	/	/	/
JR->CI	.459	.338	.580	/	/	/
LMX->CI	.172	.050	.293	/	/	/
JR*LMX->CI	.037	-.044	.119	/	/	/
JR->BO->TI	/	/	/	-.127	-.355	.102
JR->CI->TI	/	/	/	-.268	-.384	-.152
JR->CI->BO->TI	/	/	/	-.106	-.200	-.011

On the other hand, as the direct effect of job resources on burnout was not significant, there is no reason for making further discussion on the moderating effect of LMX therein. Moreover,

the direct effect of LMX on career identity was significant ($\beta = .172, p = .006, 95\% \text{ CI: } [.050, .293]$), but the interaction of job resources and LMX did not have a significant effect on career identity ($\beta = .037, p = .367, 95\% \text{ CI: } [-.044, .119]$), indicating that LMS did not play a moderating role in the effect of job resources on turnover intention through career identity. Therefore, hypotheses H6a and H6b were not supported.

4.8.4 Mediation model with POS as a moderating variable

In Study 2, we included POS as a variable to investigate whether it (instead of emotional intelligence) played a moderating role in the indirect effect of job resources on turnover intention. The fit indices showed that the model had a good fitting degree ($\chi^2/df = 2.656 < 3$, CFI = .961 > 0.9, TLI = .954 > 0.9, RMSEA = .057 < 0.1). The model is presented in Figure 4.4.

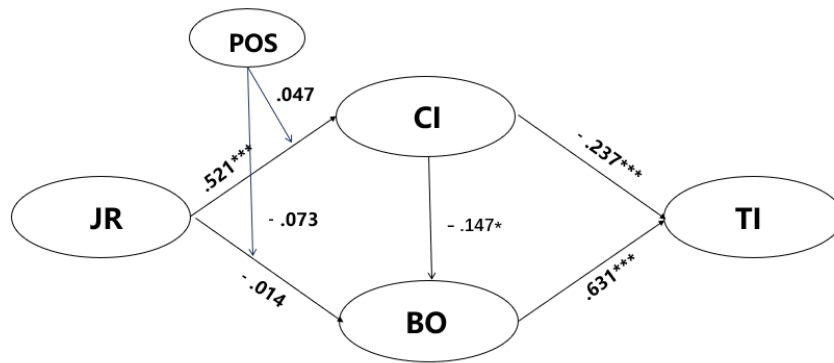


Figure 4.4 Moderated mediation model of job resources influencing turnover intention (moderator: POS)

Note: JR = Job resources; BO = Burnout; CI = Career identity; TI = Turnover intention; POS = Perceived Organizational support; * $p < .1$, ** $p < .01$, *** $p < .001$.

The coefficients showed that job resources were positively associated with career identity ($\beta = .521, p < .001, 95\% \text{ CI: } [.403, .638]$), and career identity was negatively associated with turnover intention ($\beta = -.237, p < .001, 95\% \text{ CI: } [-.311, -.164]$). The indirect effect of job resources on turnover intention through career identity was $-.306$ ($95\% \text{ CI: } [-.431, -.180]$), confirming that career identity played a mediating role between job resources and turnover intention. However, job resources were not significantly related to burnout ($\beta = -.014, p = .857, 95\% \text{ CI: } [-.161, .134]$). Burnout was positively associated with turnover intention ($\beta = .631, p < .001, 95\% \text{ CI: } [.574, .687]$), and the indirect effect of job resources on turnover intention through career identity and burnout was $-.119$ ($95\% \text{ CI: } [-.223, -.016]$) confirming the sequential mediation effect of career identity and burnout.

The above results supported the hypotheses H1, H3, H4, H4a, and H5. Detailed results can

be found in Table 4.16.

Table 4.16 Direct and indirect effects in the hypothesized model with POS as a moderating variable

Path	Direct effect		Indirect effect			
	Estimated value	LLCI	ULCI	Estimated value	LLCI	ULCI
BO->TI	.631	.574	.687	/	/	/
CI->TI	-.237	-.311	-.164	/	/	/
JR->BO	-.014	-.161	.134	/	/	/
POS->BO	-.372	-.485	-.259	/	/	/
JR*POS->BO	-.073	-.153	.007	/	/	/
CI->BO	-.147	-.265	-.028	/	/	/
JR->CI	.521	.403	.638	/	/	/
POS->CI	.082	-.037	.201	/	/	/
JR*POS->CI	.047	-.033	.127	/	/	/
JR->BO->TI	/	/	/	-.021	-.251	.208
JR->CI->TI	/	/	/	-.306	-.431	-.180
JR->CI->BO->TI	/	/	/	-.119	-.223	-.016

Given that the direct effect of job resources on burnout was not significant, there is no reason for further discussion on the moderating effect of POS therein. Besides, the interaction of job resources and POS was not significantly related to career identity ($\beta = .047, p = .252, 95\%$ CI: $[-.033, .127]$), indicating that POS did not play a moderating role in the effect of job resources on turnover intention through career identity or burnout. Therefore, the hypotheses H7a and H7b were not supported.

4.9 Hypothesis testing results

Most of the hypotheses in this study have been confirmed. First, this study tested the mediation model of job resources influencing turnover intention through burnout and career identity. Midwives' job resources were negatively related to turnover intention through (a) career identity and (b) burnout. That is, career identity and burnout had a sequential mediation effect between job resources and turnover intention. Moreover, we have also tested the moderating role of emotional intelligence in the effect of job resources on career identity and turnover intention. Details are presented in Table 4.17.

Table 4.17 Summary of hypothesis testing results

Hypothesis	Content	Results
H1	Midwives' job resources are positively related to career identity.	Supported
H2	Midwives' job resources are negatively related to burnout.	Supported
H3	Midwives' career identity is negatively related to turnover intention.	Supported
H4	Midwives' career identity plays a mediating role between job resources and turnover intention.	Supported
H4a	Job resources are negatively related to turnover intention through a sequential indirect effect via (a) career identity and subsequent (b) burnout.	Supported (not in Study 1)

H5	Burnout is positively related to turnover intention.	Supported
H6	Burnout plays a mediating role in the relationship between job resources and turnover intention.	Supported
H5a	Emotional intelligence accentuates the positive relationship between job resources and career identity, such that among midwives with higher emotional intelligence, the positive relationship between job resources and career identity is stronger.	Not supported
H5b	Emotional intelligence mitigates the negative relationship between job resources and burnout, such that among midwives with higher emotional intelligence, the negative relationship between job resources and burnout is weaker.	Supported (not in Study 1)
H6a	LMX accentuates the positive relationship between job resources and career identity, such that among midwives with higher LMX, the positive relationship between job resources and career identity is stronger.	Not supported
H6b	LMX mitigates the negative relationship between job resources and burnout, such that among midwives with higher LMX, the negative relationship between job resources and burnout is weaker.	Not supported
H7a	POS accentuates the positive relationship between job resources and career identity, such that among midwives with higher POS, the positive relationship between job resources and career identity is stronger.	Not supported
H7b	POS mitigates the negative relationship between job resources and burnout, such that among midwives with higher POS, the negative relationship between job resources and burnout is weaker.	Not supported

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Chapter 5: Discussions

Using two cross-sectional studies, we investigated the relationships between Chinese midwives' job resources, career identity, burnout, turnover intention, emotional intelligence, leader-member exchange (LMX), and perceived organizational support (POS) with structural equation modeling. The results indicate that midwives experience burnout in their work and may develop turnover intention and that strong career identity can help to reduce their turnover intention, which is consistent with the findings of previous research on healthcare workers applying the JD-R model. We also explored the moderating effect of emotional intelligence, POS, and LMX on midwives' turnover intention. The findings may give us a better understanding of the possible factors leading to midwife mobility and their interactions and help us find out the status of the midwife profession. The results have important theoretical and practical implications for human resource management. The key findings are discussed next.

5.1 Analysis of demographic characteristics

5.1.1 Gender

All the midwife participants in this study were female, but in reality, there have been more and more men joining the midwifery profession in China. As of the end of 2021, male nurses accounted for 3% of the 5 million nurses in China. Due to the fact that the Chinese midwifery system has not been fully established yet, midwifery is still considered a branch of nursing and does not have an independent and complete system. Midwives are classified as nurses, so there is no conclusive data available on male midwives. It has been observed that male midwives were included in a few studies on midwives in different regions in China. However, gender has not been analyzed and discussed in detail in those studies. For example, in Tan et al. (2014), male midwives accounted for 9.1% of all respondents in Guangzhou. In S. Zhang et al. (2022), among the 320 midwife participants in Shandong Province, 2 were male midwives, accounting for 0.6%. Research has shown that pregnant women and their spouses do not show high acceptance towards male midwives and that people are still deeply bound by traditional beliefs regarding the gender of midwives (Jiang et al., 2016). However, it has also been shown that women and their spouses' recognition of male midwives increases after childbirth (Jiang, 2016;

Zhou et al., 2017). Through a review of relevant literature, we have found a research gap on male midwives in China, in terms of their number, life status, and social acceptance.

Globally, it is a fact that men have started or are about to enter the field of midwifery. Sannomiya et al. (2019) conducted a descriptive analysis of male midwives worldwide and showed that among the 77 countries surveyed, 58 had male midwives, with China being one of them. With the development of the global economy and the continuous improvement of medical services, male midwives have also attracted more and more attention worldwide. The study of Mohamed and El-Nemer (2013) has shown that mothers believe that male midwives working in obstetrics are more compassionate than female midwives and do not develop preconceived ideas based on their own delivery experience.

At present, there is a shortage of midwife human resources in China, and there is a severe unbalance between male and female midwives. It is meaningful to allocate male midwives when there are insufficient female midwives at the peak of childbirth and to try to adjust the gender proportion in the midwife profession properly. In that light, cultivating male midwives is of great significance to improving the midwife work system. We should constantly optimize the structure of midwife human resources, cultivate more high-quality midwives, provide them with high-quality educational resources, and attract young, highly educated, and high-quality male midwives, so as to leverage the advantages brought by gender balance and promote the further development of the midwifery occupation.

5.1.2 Age

The survey results showed that in Shenzhen, the average age (mean $\pm$ SD) of midwives was 36.7 ± 7.0 years old, and the average years of experience as a midwife were 13.3 ± 8.4 years; on the national level, the average age of midwives was 33.8 ± 8.1 years old, and the average years of experience as a midwife were 11.7 ± 8.5 years. That is consistent with the survey results of other Chinese scholars (Ji et al., 2022; Zheng et al., 2018). The results of a national survey on the human resources status of midwives indicate that young midwives aged 25-34 with junior professional titles and 10 years of experience are the leading force in obstetrics at all levels of hospitals in China (Hu et al., 2020). According to the survey results in this study, midwives in China are relatively young. That is related to the immature development of the midwifery occupation in China. Due to the late start of midwifery education in China, there are insufficient education programs to cultivate advanced midwifery talents, resulting in a shortage of highly educated midwives. The advantages of younger midwives include strong adaptability and

creativity, high learning ability, and high expectations and enthusiasm for work; the downside is that the age structure of Chinese midwives is inappropriate, and there is a lack of senior midwives with higher qualifications in the clinical frontline. The optimal age structure for midwives should be “olive-shaped” or “spindle-shaped” with smaller ends, but the results of this study showed a “trapezoidal” structure. If a team is too young, their clinical skills and work capabilities are relatively weak. Insufficient clinical experience can lead to an increased risk of patient safety. In addition, young midwives are in the peak period for marriage and childbirth, which can lead to a shortage of human resources within a certain period of time. The inappropriate age structure of midwives increases the risks of maternal and child healthcare services. Moreover, there is a lack of a mechanism to retain senior and experienced midwives. An Australian study (Pugh et al., 2013) has shown that the age of Australian midwives ranges from 23 to 73 years old, and midwives with undergraduate and graduate education are mostly aged 40 and above, which is the age group that is the most trusted by women.

In summary, hospital managers should focus on training midwives in career planning and retaining senior midwives in the midwife position. They can invite highly qualified senior midwives to share their experiences with young midwives, helping them enhance their sense of career identity. Managers should leverage the advantages of midwives of different age groups, enhance their sense of work value and identity, and establish a sound midwife education and training system, not only to enhance the professional knowledge and skills of young midwives but also to continuously upskill senior midwives, thus optimizing the midwife talent structure and improving the midwife work system.

5.1.3 Marital status

In the Shenzhen survey, 80.6% of the midwife participants were married and 16.1% were single. In the nationwide survey, 72.7% were married, 25.0% were single, and 2.3% were divorced. In Shenzhen, the mean of job resources in the “married or other” group was (4.90 ± 0.73), significantly higher than that of the “single” group (4.61 ± 0.80). The results are similar to the results of some other Chinese studies. Married midwives have advantages in various aspects. In the study of Dai et al. (2022), single midwives accounted for 22.8%, while married midwives accounted for 77.2%; univariate analysis showed that married midwives had higher scores in core competency, with a statistically significant difference from single midwives. According to Y. Li et al. (2021), 76.2% of the midwives were married, and their average core competency score was higher than that of single midwives, with a statistically significant difference. In Feng

(2021), married midwives accounted for 62.55% and had higher scores in interpersonal relationship management, clinical coping, and rational thinking and self-control than single midwives. According to Liang et al. (2020), most midwives are married, and marital status has an impact on the degree of empathy fatigue among midwives ($p < 0.05$).

The above results indicate that most midwives are married. A stable marital relationship provides midwives with solid family support. Married midwives enjoy healthier job resources and richer psychological resources than single midwives. They also assume more social roles and have a stronger sense of responsibility. In general, they pay more attention to effective communication with pregnant women and the quality and safety of treatment (Zhu, 2013).

5.1.4 Education background

According to the Shenzhen survey results, over 59.9% of the midwives had received vocational school education in midwifery, 27.7% had received a college education in midwifery, 12.0% had an undergraduate education in midwifery, and one had a master's degree in midwifery. In the nationwide survey, 25.6% of the midwives had received vocational school education in midwifery, 46% had received a college education in midwifery, 27.3% received undergraduate education in midwifery, and two had a master's degree in midwifery. The results show that Chinese midwives mostly received their midwifery education from vocational schools or colleges. That is consistent with the results of numerous studies (Hou et al., 2017; Lu, 2017; Pang, 2015; Wei et al., 2008), which indicate that the majority of midwives in the nursing team received their midwifery education in vocational schools, confirming our description of midwives in Chapter One. Due to historical reasons, midwifery education in China only took place in vocational secondary schools until the late 1990s, when midwifery college programs started. The undergraduate education in midwifery only started less than 5 years ago, and it is not a true midwifery undergraduate program, but a nursing undergraduate program (with a focus on midwifery). This suggests that attention should be paid to the enhancement of the educational structure of midwives. Obstetric work imposes high demands on midwives' capabilities, requiring midwives to possess strong professional skills and adaptability. Moreover, in midwifery, the service objects are mainly pregnant women, fetuses, and infants, which requires a strong sense of responsibility. The work is characterized by unpredictability and high risk and thus requires midwives to have rich and updated professional knowledge. Therefore, hospital managers should conduct adequate training for midwives, actively introduce highly educated talents, and keep on upskilling the in-service midwives.

5.1.5 Professional titles

In Study 2, the senior, intermediate, and junior midwives accounted for 7.1%, 38.3%, and 54.6%, respectively. Dai et al. (2022) found that the proportion of senior professional titles was relatively small among midwives. Y. Li et al. (2021) showed that nurses with “associate senior or above” professional titles accounted for 1.9% of all nurses, indicating that the proportion of senior professional titles was generally low. X. Wang et al. (2017) also found that midwives were mostly junior (76.5%). Based on the above results, it can be seen that the professional titles of midwives are generally low across China, and there is a lack of highly qualified professional midwifery talents. There is a certain gap compared to the proportion of medical staff professional titles recommended by the World Health Organization (the ratio of senior, intermediate, and junior is 1:3:1) (O’Brien-Pallas & Hayes, 2008). It suggests that hospital managers should improve the management system of midwives, alleviate their work pressure, and pay attention to their health, including both physical and mental health. In addition, attention should be paid to constructing a scientific and adequate training system for midwives, talent introduction, and continuing education for in-service midwives. Midwives’ professional titles should gradually align with nurses’ (Wei et al., 2008; Xiong, 2017).

5.1.6 Type of employment

In the nationwide survey in Study 2, only 147 midwife participants were permanent employees, accounting for 28.7%; 365 were non-permanent employee (i.e., contract-based) midwives, accounting for 71.3%. Comparatively, the proportion of permanent-employee midwives in our study is smaller than in other Chinese studies. In Zheng (2019), the proportion of contract-based midwives exceeded that of permanent-employee midwives in tertiary hospitals, being 56.26% and 43.74%, respectively. According to X. Wang et al. (2017), permanent-employee midwives accounted for 34.0%, while contract-based midwives accounted for 66.0%. The research results of Liang et al. (2020) indicated that the type of employment had an impact on the degree of empathy fatigue among contract-based midwives ($p < 0.05$). According to Q. Wu et al. (2018), midwives with different types of employment showed differences in structural and psychological authorization. It is recommended to create an authorized work environment for midwives starting from structural authorization and psychological authorization, ensure smooth authorization channels, and provide them with more opportunities for learning and development, so as to drive the stable and healthy development of midwives.

To sum up, the research results indicate that in China, most midwives are contract-based

midwives. There are a few reasons for that. Due to the limited slots for permanent employees in medical institutions in China, the lack of sufficient places for permanent-employee midwives is very common. Thus, the workload of maternal and child healthcare services can only be addressed by hiring contract-based midwives. That also empirically demonstrates the shortage of human resources for midwives in China from a different perspective. It suggests that hospital managers should attach importance to contract-based medical staff in medical institutions, care about their career development plan, ensure that contract-based midwives and permanent-employee midwives receive basically the same benefits and are treated equally at work, enhance the POS of contract-based midwives, reduce their work fatigue and turnover intention, enhance their sense of belonging in the organization, and stabilize the number of midwife talents. They should rationally evaluate midwives' human resource structure, invite industry experts for assessment, and conduct research on human resource allocation standards. Managers should adjust and improve human resource allocation in real-time based on the actual situation, ensure the quality of midwifery services and maternal and child safety through multiple channels, and promote the development of the midwifery discipline (Q. Wu et al., 2018; S. Zhang et al., 2022).

5.2 The status of midwives in China: job resources, career identity, burnout, and turnover intention

5.2.1 Midwives' perceived job resources

This study investigated the status of Chinese midwives' job resources from the perspectives of job control, career development, and social support. Results of Study 1 showed that the mean of job resources among midwives in Shenzhen was (4.85 ± 0.75), and results of Study 2 indicated that the national mean of job resources was (4.64 ± 0.80). Both are higher than the mean of job resources among nurses in four public hospitals in the study by J. Liu (2019) (3.43 ± 0.56). In this study, the mean of job resources among midwives in Shenzhen and nationwide are relatively high, which is related to the government's significant efforts in policies and financial support in recent years by carrying out the "Five Year Plan for Midwife Job Training" (Jiang et al., 2015). The high scores of POS among the midwife participants suggest that Chinese hospitals have a good culture and atmosphere and value the cultivation of teamwork abilities among midwives. The focus of this study is midwives, who, compared to regular nurses, usually have higher capabilities of making independent decisions in work, can receive more rewards, and thus have relatively more job resources. The results are not consistent with

previous research findings (Cao, 2018; Cind, 2013; Creedy et al., 2017; Doherty & O'Brien, 2021), which indicates that midwives from different countries or cultural backgrounds may show differences in perceived job resources.

5.2.2 Midwives' career identity

Our study has found that the mean of career identity among midwives in Shenzhen was (5.04 ± 0.83), while the national mean of career identity was (5.05 ± 0.83). Their recognition of the midwife profession and their career identity are at a moderate to a high level, which is similar to the results in C. Chen et al. (2019) and S. Li and Li (2019) regarding the career identity of midwives. The results suggest that midwifery work gives midwives a certain sense of professional achievement, and their career identity is stable. Strengthening the education of both humanistic spirit and professionalism for midwives is one of the key ways to enhance their professional values and career identity.

In studies on midwives' career identity in different regions, including D. Chen and Xu (2020), C. Chen et al. (2019), and Ye et al. (2014), the results indicated that midwives' career identity was moderate. We posit that the difference owes to the unremitting efforts of the National Midwives Branch of the China Maternal and Child Health Association over the past five years. Although it is not a first-level independent academic society, it is a second-level association branch dedicated to raising awareness of the significance and value of midwife work, making midwives deeply understand the importance of their job and respect for their profession, as they are the first persons to support new lives.

In addition, it is worth noting that midwives, as a special group of the nursing population, may have limited self-exploration, self-judgment, and error correction due to the shortage of midwifery personnel, heavy workload, and repetitive day-to-day operations, which may result in a lack of in-depth self-reflection. Hospital nursing managers should strengthen the guidance and management for midwives and inspire and motivate them, so as to drive their proactive exploration and thinking and enhance their career identity. Besides, according to some studies, improving the recognition of and respect for midwives at work can also help enhance their career identity (Kelly, 1992).

5.2.3 Midwives' burnout

In this study, the mean of burnout scores among midwives in Shenzhen was 3.14 ± 1.06 , while the national mean of burnout was 3.48 ± 1.23 , indicating that the level of burnout among

midwife participants was medium-high. That is consistent with the results of many other studies (Jiang et al., 2017; Q. Li et al., 2019; Liang et al., 2020; Liu, 2013), showing moderate to high levels of burnout. However, the result is quite different from the burnout score of midwives in tertiary hospitals (2.63 ± 0.51) in the study by Feng (2021). Moreover, the average burnout scores in our study are lower than the mean among midwives (4.34 ± 0.76) reported in the study by Ye (2018).

In the study of D. Liu (2013), 51.3% of the midwives were in a state of high burnout; S. Li and Li (2019) showed that 53.1% of midwives had moderate burnout and 23.6% had severe burnout; in Jiang et al. (2017), 52% of the midwives in Fujian Province experienced burnout. From the results of numerous studies, it can be seen that Chinese midwives commonly experience burnout in their work (Jia & Wang, 2013; Q. Li et al., 2019; J. Zhang, 2015). Given the long-term and high-intensity features of midwifery work, midwives are facing high work pressure. When the pressure exceeds an acceptable limit, it will lead to certain physical or psychological outcomes.

Some scholars in China (Y. Wang et al., 2015) have pointed out that people with lower social support and a stronger sense of social responsibility tend to experience lower levels of achievement and higher levels of emotional fatigue. The midwifery job requires a high sense of social responsibility. Especially nowadays, with a fast-developing society and economy and the increasingly aging population, the number of elderly pregnant women is increasing, which imposes higher demands on the capabilities of midwives working in obstetric wards and in delivery rooms. In addition, it is a high-risk healthcare job, and thus midwives must have better psychological qualities and higher skills to cope with all kinds of unpredictable situations in obstetrics. The delivery process usually takes long hours and has high complexity and unpredictability, which requires midwives to maintain high focus. Long-term mental stress can make them exhausted. Especially, when unexpected incidents occur and the pregnant women or the family members do not understand the situation, midwives will feel even more exhausted, which will affect their sense of achievement over time, leading to a decrease in their recognition of the midwife work. Furthermore, from the perspective of the social environment, midwife work is still considered part of nursing in China, with low professional status and poor benefits, which can easily lead to burnout (Lu, 2018).

Like in China, midwives in other countries also suffer from burnout. Hildingsson et al. (2013) found that 33% of European midwives experienced varying levels of burnout. In Switzerland, 39.5% of midwives had higher burnout scores (Peter et al., 2021). Nearly 30% of midwives in Australia experienced moderate to high levels of burnout, with approximately 50%

scoring high in job burnout; insufficient job resources and physical fitness significantly affected midwives' burnout and the level of medical services provided to women (Creedy et al., 2017). Sheen et al. (2015) found that 33% of British midwives experienced burnout, and the level of burnout was related to traumatic stress syndrome. Yoshida and Sandall (2013) found that 54% of midwives in the UK had significantly higher levels of burnout. Kalicinskam et al. (2012) showed that Polish midwives were experiencing severe burnout, and support from superiors could effectively reduce midwives' burnout. In Sweden, the symptoms of burnout among midwives were related to all aspects of mental health, where the working environment also played a role; resource conservation measures could reduce the natural turnover rate (Hadžibajramović et al., 2022).

To sum up, we can see that midwives experience a moderate to high level of burnout. From a social perspective, midwives not only need to have a high sense of social responsibility, but also bear more social pressure in work with heavy workloads and high intensity, especially in the face of high expectations and high demands from medical institutions, society, and family members. From the perspective of the working environment, medical professionals often face all kinds of unexpected situations. As pregnant women and infants are the key objects of concern and care for every family, there are even higher expectations and demands for midwives, resulting in a higher probability of doctor-patient disputes. Moreover, regarding the features of midwifery work, childbirth is a long, uneasy, and painful process, and midwives have to carefully monitor the status of the pregnant women and provide timely comfort and support. They should not only learn to alleviate their own tense emotions but also soothe the women's emotions. Finally, regarding personal factors, besides taking on work responsibilities in medical institutions, midwives also have to bear their social and family responsibilities. Multiple pressures also make them physically and mentally exhausted.

5.2.4 Midwives' turnover intention

The results of the two surveys showed that midwives had an average turnover intention score (2.42 ± 1.16), similar to the results of some other studies (Fang, 2016; Miao, 2015; Wang, 2015). However, it is inconsistent with the research findings of most Chinese scholars regarding the turnover intention of Chinese midwives (Hu, 2020; Shi et al., 2021; Ye, 2018). Midwives' turnover intention scores in this study were not high, contradicting the conclusions of many other Chinese studies. We attribute the inconsistency to a few reasons. First, the work scope of the current on-the-job midwives may be concentrated in delivery rooms, a relatively private and

small working space, where midwives can have higher autonomy and leadership and more opportunities to make decisions and work independently. In addition, the survey was conducted during COVID-19, and medical staff from non-emergency departments were sent to the front line for COVID control. The obstetrics department was not a front-line COVID control department but an emergency department, and therefore, the department maintained normal operation, with most midwives working in delivery rooms to support pregnant women. Compared with the work at the COVID front line, the midwife work was relatively more controllable, which might reduce midwives' turnover intention.

5.3 Findings of variance analyses

5.3.1 One-way ANOVA analysis of midwives' job resources

In this study, the scores of job resources did not show significant differences between midwives in different job positions, which is consistent with the results of Z. Chen's (2017) study on nurses. That is because nurses do basic care daily, and midwives in different positions do not have very different work content. As a member of the Shenzhen Maternity Evaluation Committee, the author has acknowledged that according to the requirements of China's hospital evaluation system, the hardware settings, system requirements, and emergency plans of delivery rooms shall all be carried out according to the standards. Therefore, there is no significant difference in job resources among midwives.

5.3.2 One-way ANOVA analysis of midwives' career identity

From the scores of career identity among midwives across China, we can see a significant difference between midwives in different job positions ($p < 0.5$). The different positions here refer to midwives working in obstetric wards, those working in delivery rooms, and midwife head nurses. Comparatively, the career identity scores of midwives in delivery rooms and head nurses were significantly higher than those in obstetric wards, being (5.08 ± 0.81) , (5.18 ± 0.79) , and (4.75 ± 0.09) , respectively. That is similar to the results of C. Chen et al. (2019), Y. Zhang (2014), and Hu and Pi (2014), that midwives could experience a certain level of work achievement and professional pride. It can be attributed to a few reasons. In obstetric wards, midwife nurses' tasks are mostly commanded by doctors. Their daily work is basically the same as that of general nurses, lacking creativity and challenge. Contrastingly, midwives in delivery rooms have a higher level of autonomy in decision-making, especially during the delivery

process, where they can show their delivery skills, comforting and caring for the women. That can also result in women's greater dependence on and trust in midwives, enhancing midwives' sense of work achievement.

Some studies in other countries have shown that midwives with different professional titles have varying levels of career identity. Generally speaking, higher professional titles are likely related to stronger career identity. However, currently in China, the public has little knowledge of the work scope of the midwife occupation. In addition, midwifery is considered part of nursing and does not have an independent professional title system in China. In clinical practice, midwives are generally addressed as "nurses" or "doctors" by the women and their family members and very rarely as "midwives" (D. Li, 2020; H. Li & Wang, 2020).

In the Shenzhen survey, there was no significant difference in the scores of career identity between midwives with different job positions, midwifery education, professional titles, or institutional sizes. That is consistent with the findings by X. Zhang and Lu (2013). In other countries, midwives mostly hold a bachelor's degree or above (Fryc, 2014). Especially in countries such as Canada, Ireland, the UK, and New Zealand, where midwives have a long history and the midwifery education systems and work procedures are standardized and systematic (Butler et al., 2016), midwives tend to have higher education backgrounds and more professional knowledge and skills and can better handle their work (Gilkison et al., 2016). In many countries, midwives can practice independently and provide continuous care for pregnant women and newborns (Qiu, 2018).

From the results of this study, it can be seen that the initial education of midwives in China is mainly vocational school or college in midwifery, and the highest education level is mainly college or undergraduate in nursing. Midwifery education is still subordinate to nursing and has no independent system yet. Besides, the public knows little about the midwife occupation, and midwives receive little social support. Their work is intensive and stressful and is highly dependent on the medical work environment. In general, midwives are far less recognized and supported than other medical staff (Coyne et al., 2016). Midwifery work requires highly technical skills, has high intensity, and includes many emergency situations; midwives have a strong sense of responsibility, have frequent late-night shifts, do not have a fixed schedule, and have to show up when being on call, which can disrupt their pace of life (Jia & Wang, 2013). With high work pressure or long-hour shifts, negative experiences gradually accumulate. Midwives can only temporarily relieve the pressure and cannot truly cope with it, resulting in physical and mental health damage (Zhai et al., 2013). Under such background, the differences in job positions, midwifery education, professional titles, and institutional size do not make a

difference on their career identity.

5.3.3 One-way ANOVA analysis of midwives' burnout

The results of the Shenzhen study showed that there was a significant difference in the scores of burnout among midwives with different midwifery education ($p < 0.5$). The burnout score of midwives with undergraduate education in midwifery was (3.58 ± 0.83), significantly higher than that of midwives with vocational school education (3.09 ± 1.02) or college education in midwifery (3.06 ± 1.18). However, there was no significant difference in burnout scores between midwives with vocational school education and those with a college education in midwifery. The results are similar to the findings of Rouleau (2012) on the burnout of nurses in tertiary hospitals in Singapore, showing that nurses with a diploma or advanced diploma education were more likely to experience emotional exhaustion and depersonalization compared to nurses with only vocational training. We attribute that to a few reasons. First of all, it may be related to the fact that midwives with lower educational backgrounds started working earlier and thus have longer working years than other midwives of the same age. Secondly, midwives with higher education levels bear more responsibility and greater workloads and have higher expectations for their work. Thus, there is a greater gap between the expectations and the actual situations, which results in more burnout. Feng (2021) mentioned in her research that there were significant differences in decision-making and rational thinking scores among midwives with different midwifery education. Studies in other countries have also shown that higher levels of education lead to higher career expectations. Objectively speaking, the work of midwives deserves certain rewards. However, in reality, many midwives' efforts and rewards are not proportional, and their value is not reflected properly, which may reduce their faith in the profession and increase their sense of disappointment and dissatisfaction. Over time, it may lead to chronic occupational fatigue (Yoshida & Sandall, 2013).

This study found no significant difference in burnout scores between midwives of different ages, which is similar to the findings of a study on Swiss midwives (Hadžibajramović et al., 2022) and is also consistent with the author's earlier research findings (Wu & Wang, 2010). As the hierarchical management of midwives in China is still in the phase of exploration and improvement, midwives of older ages with more seniority have basically the same work content and scheduling as junior midwives, and there is no hierarchical management or scheduling. That is why there was no significant difference in burnout scores among midwives of different ages. In the past 10 years, the nursing administrative authorities in China have conducted a lot

of research and attempts (Lu et al., 2018; Wu et al., 2012; Zhuang et al., 2013), but currently, the hierarchical management of midwives is still ineffective. Bakker et al. (2002) showed that the Gender $\times$ Age and Gender $\times$ Working Years interactions have significant effects on burnout. In different professions, women, especially those with younger ages or less work experience, exhibit higher levels of burnout.

No significant difference was found in burnout scores among midwives with different job positions and institutional sizes, consistent with the research results in Feng (2021) and Jiang (2016). That is because midwives' burnout is mainly related to the nature and content of work, which is not necessarily related to the positions and institutional sizes. In recent years, with the fast development of the economy and society and the increasingly aging population, people have been paying more and more attention to the development of maternal and child healthcare services, imposing higher demands and requirements. Shenzhen, a first-tier city in China, had a permanent resident population of 11.39 million in 2019, and the number of married women of childbearing age accounted for 32.3%. However, there were only 90 hospitals (including public and private hospitals) providing obstetric services in the city, with 3937 obstetric beds and 1048 midwives. According to the minimum standard in China, namely, 2.5-3 midwives per obstetric bed, the shortage of midwives in Shenzhen reached over 30%. From a national perspective, there are only 182,000 on-the-job midwives in China, and the midwife-newborn ratio far falls short of international standards. Especially in the context of the comprehensive opening-up of the birth-control policy in China, there has been a surge in elderly and high-risk pregnant women, which placed higher demands on the work of midwives.

As a city on the front line of China's reform, Shenzhen has rapid economic development, a fast pace of work and life, and a large population, especially young people of childbearing age. The workload in delivery rooms in Shenzhen is large, and there is a shortage of midwife human resources. Midwives are busy with streamlined work and do not have the extra energy to accompany and care for pregnant women. The high-pressure and repetitive work day after day deprives midwives of the energy to proactively respond to all kinds of situations at work, which can lead to negative emotions. Midwives often fail to gain understanding from pregnant women and their families, thereby affecting the doctor-patient relationship. The work of midwives is limited to the delivery room, and they do not have the opportunity or time to engage in care throughout the pregnancy, delivery, and postpartum periods, which limits effective communication and exchange between pregnant women and midwives (S. Li & Li, 2019).

The results of our study showed that there was no significant difference in burnout scores between midwives with different professional titles, which is consistent with the results of Kang

(2011) and Lu et al. (2018). Currently, in China, midwives do not have an independent professional title system and are still part of the nurse professional title system. Besides, there are very few opportunities for midwifery continuing education and promotion, and seniority is not reflected in salary and welfare benefits. That is why different professional titles did not make a significant difference.

5.3.4 One-way ANOVA analysis of midwives' turnover intention

The mean of turnover intention scores among midwives in Shenzhen was 2.23 ± 1.05 , and the national mean of turnover intention was 2.42 ± 1.16 , indicating that midwives' turnover intention was at the medium level, which is consistent with the results of Hu et al. (2020) and Qiao et al. (2013). The results suggest that the midwife personnel have poor stability and potential turnover intention. Midwives with higher turnover intention have more negative attitudes towards work and show less proactivity and enthusiasm. In the long run, it will affect the quality of their work, resulting in a higher error rate.

From our surveys, it can be seen that midwives' turnover intention scores did not differ significantly between different regions, job positions, midwifery education, professional titles, or institutional sizes, which is consistent with the results in Jia (2012). With the fast development of the economy and society, and especially the public's increasing awareness of health, people are having higher demands for medical services. In particular, maternal and child healthcare services have received increasing attention, and higher demands are placed on midwife work, translating into greater pressure for midwives (Ye, 2018). Under this macro background, midwives with different midwifery education, professional titles, or institutional sizes perceive basically the same level of pressure. Midwives, due to long-term exposure to high-pressure environments and psychological stress, experience strong work fatigue. It suggests that hospital managers should pay more attention to the health of midwives, especially their mental health. They may conduct regular psychological counseling sessions and reward midwives to enhance their career identity and sense of self-worth. Managers should also make the work schedules more reasonable to reduce midwives' work intensity and enhance their POS (Di & Chen, 2008).

5.3.5 One-way ANOVA analysis of midwives' emotional intelligence

The results of this study showed that the means of emotional intelligence among midwives in Shenzhen and among midwives across China were similar, being 4.61 and 4.64. In Shenzhen,

there was a significant difference in the scores of emotional intelligence between midwives with different midwifery education ($p < 0.5$). The emotional intelligence scores of midwives with a college education in midwifery (4.90 ± 0.67) were significantly higher than those with vocational school education in midwifery (4.57 ± 0.66) and those with undergraduate education in midwifery (4.47 ± 0.66).

However, there was no significant difference in emotional intelligence scores between midwives with vocational school education and undergraduate education in midwifery. We attribute that to a few reasons. Vocational school education is a secondary education, while college education is the starting point of higher education. Midwives with a college education in midwifery have received higher education levels than those with vocational school education; they also started working in hospitals earlier than those with undergraduate education, thus having relatively longer working years and work experience. Due to both advantages, midwives with a college education in midwifery showed significantly higher emotional intelligence scores than those with vocational school or undergraduate education. The results are similar to the findings of Yan et al. (2019) on the relationship between age and emotional regulation ability level among obstetric nurses. Shi (2022) also shares a similar view with the author. He showed that college students majoring in midwifery had higher scores in emotional intelligence, and it was conducive to clinical critical thinking; midwives with older age and longer working years have richer work experience and a stronger ability to regulate their emotions, which makes it easier for them to express their expectations and demands. The results suggest that managers should also pay attention to the emotions of young midwives, for example, by organizing exchange sessions or seminars where senior medical staff is invited to share their work experiences. They can also carry out training on emotional intelligence enhancement, encourage colleagues to share with each other, reduce their negative emotions caused by negative childbirth outcomes, and improve their emotional cognition level, thus enabling them to handle interpersonal relationships and demonstrate high emotional intelligence.

At the national level, the emotional intelligence scores of midwives in delivery rooms (4.63 ± 0.65) and head nurses (4.68 ± 0.52) were significantly higher than that of midwives in obstetric wards (4.39 ± 0.59). Some studies (Zhang & Ye, 2021) showed that there was a significant difference in the psychological capital among nurses in different job positions; nurses with positions of team leader or above had a higher perception of authorization level than clinical nurses, which reflects the nature and superiority of job position setting. Compared to head nurses and midwives in delivery rooms, those in obstetric wards work more in a submissive mode. The day-after-day repetitive work and lower remuneration make them feel

powerless, helpless, left with no choice, and unwilling to use more emotional intelligence to maintain interpersonal relationships or their image at work (Wu et al., 2021).

Ma et al. (2020) showed that people with higher emotional intelligence were more likely to assume leadership and management roles. In that specific context, it means, those with higher emotional intelligence are more likely to become head nurses since this job involves a lot of interpersonal skills. The emotional intelligence level of head nurses and above was significantly higher than that of other nurses. Head nurses have rich work experience, mature interpersonal relationships, a positive understanding of the midwifery occupation, and a strong sense of values and career identity, and can better handle all kinds of relationships. Midwives working in delivery rooms, compared to those in obstetric wards, have more autonomy in their work, a higher sense of professional achievement, and a higher level of recognition in the workplace, resulting in higher confidence in coping with all kinds of interpersonal relationships that arise at work. However, those in obstetric wards usually have fewer years of nursing experience and lack clinical experience, while facing high job demands. In the face of heavy workloads, complex and variable patient conditions, and many uncertainties in delivery room work, they have high psychological pressure, which leads to high burnout, making them unwilling to maintain interpersonal relationships and exhibit lower emotional intelligence.

5.3.6 One-way ANOVA analysis of midwives' POS

The national mean of midwives' POS was (2.23 ± 1.05), indicating that their POS was at a moderate to a low level. That is similar to the results of Wan et al. (2018), which showed that low POS was not conducive to employees' work engagement, and an environment with stronger organizational support could enhance nurses' POS. The study by Sheen et al. (2015) showed that midwives needed support from family, friends, and organizations; insufficient or lack of organizational support at work could increase their anxiety, and in severe cases, could even lead to depression. In midwifery practice, the relationship between midwives and pregnant women is characterized by a high level of empathy and identification, which makes midwives face secondary trauma when taking care of women who have undergone traumatic childbirth. If midwives cannot fully utilize organizational support, it may easily lead to empathy fatigue (Jing, 2010). The efforts of individuals, families, friends, and organizations are indispensable for establishing a good support system for individuals living in society, especially midwives who have been married and have children. Besides assuming work responsibilities, they also need to bear social and family responsibilities. To balance family and work responsibilities, they need

strong support from friends, family, and organizations.

The results show that the mean of POS among permanent-employee midwives was (3.54 ± 1.14), lower than that of non-permanent-employee midwives (3.79 ± 1.16). That may be related to the employment system of midwives in China. Permanent-employee midwives have a lifelong job (called the “iron rice bowl” in China). As there is no need to worry about employment contracts, they have higher expectations and demands in work and thus have lower POS. Contrastingly, non-permanent-employee midwives are those with an “annually renewable employment contract”, who have lower expectations for the organization. They are satisfied as long as they can maintain their job and tend to have higher POS. According to social exchange theory, higher POS can increase work engagement. The POS of midwives is not associated with demographic factors such as hospital size, marital status, doctor type, department, age, education level, professional title, years of service, and years of experience (Stoll & Gallagher, 2019), which is consistent with the results of our study.

Our results showed no significant difference in POS scores between midwives with different job positions, midwifery education, professional titles, and institutional sizes. It may be because the professional title system of midwives in China has not been established yet, and midwifery is considered part of nursing. The public’s recognition of midwives is far less than that of doctors and nurses, and many people do not even know the existence of the midwife occupation, which leads to low social support and recognition of midwives. In addition, there are limited channels for midwives’ promotion and continuing education. In China, midwifery education mostly occurs in colleges and vocational secondary schools. There are very few midwives with higher education in midwifery. Their professional skills and knowledge still need to be enhanced.

5.3.7 One-way ANOVA analysis of midwives’ LMX

The national mean of midwives’ LMX was (4.22 ± 0.99), and there were significant differences in LMX scores between midwives in different job positions. The scores of LMX among midwives in delivery rooms (4.26 ± 0.99) were significantly higher than that among midwives in obstetric wards (3.87 ± 1.02). It may be due to the fact that midwives in delivery rooms have more decision-making autonomy than those in obstetric wards. By providing companionship to pregnant women during labor, they build a closer relationship with the women and are more likely to receive recognition from the women and the leaders, thus having stronger confidence and more energy to maintain interpersonal relationships. With good handling of interpersonal

relationships, they can also have good relationships with their leaders. The results of our study showed that the mean of LMX among permanent-employee midwives (4.03 ± 1.04) was lower than that among non-permanent-employee midwives (4.29 ± 0.97). Permanent-employee midwives have lifetime contracts, while non-permanent-employee midwives generally have annually renewable contracts. The type of employment may affect the stability of midwives. Instability or uncertainty may cause cognitive pressure on midwives, making them strive to make a difference and be recognized by the public. Therefore, non-permanent-employee midwives are more willing to make efforts to maintain relationships with their leaders, hoping to increase the sense of occupational security and gain more recognition.

5.4 Findings of hypothesized model testings

5.4.1 Relationship between job resources, career identity, and turnover intention

Structural equation modeling analysis showed a positive relationship between midwife job resources and career identity, supporting hypothesis H1. The results are similar to the results of other Chinese studies (C. Chen et al., 2022; Han et al., 2014): in terms of external resources, with better social support, midwives can better provide care for individuals in high-pressure environments; insufficient resources will lead to a decrease in their career identity. From the perspective of internal resources, maintaining a positive psychological state can enable midwives to receive more positive emotional feedback in their work and to respond to work pressure more positively (J. Li, 2011).

In this study, there was a significant negative relationship between midwife career identity and turnover intention, supporting hypothesis H3. The results are consistent with those of Z. Li et al. (2020), D. Chen and Xu (2020), and Hu et al. (2022). It indicates that the level of career identity can affect midwives' turnover intention. According to the job demands-resources (JD-R) theory, useful and positive job resources have a positive impact on both the physical and mental health of midwives and can effectively mitigate the negative impact caused by work pressure. Enhancing the training and continuing education of junior midwives requires a shift from solely skill acquisition to personal and professional awareness, and from transactional methods to transformative methods, which means, strengthening the training on career identity. The strength of career identity closely affects midwives' motivation to seek other jobs and can enhance their sense of career identity, thus reducing turnover intention (Cowley, 2020). It suggests that attention should be paid to enhancing the career identity of midwives, reducing

their turnover intention, and making the midwife team more stable.

The results of this study indicate that career identity plays a mediating role between job resources and turnover intention, supporting hypothesis H4. It is consistent with the results of C. Chen et al. (2022), that individuals' work engagement and career identity were related to job resources. Abundant job resources can reduce an individual's burnout, thus affecting their turnover intention. With a higher level of social support, the performance feedback will be better, and individuals will have more focus on work. However, due to an unreasonable resource distribution system and incentive mechanism for nurses, the current salary and benefits of nurses are relatively low, which leads to a decrease in their work enthusiasm, resulting in low career identity and high turnover intention (Qin, 2017). It is suggested that hospital management should establish a scientific and fair performance evaluation system to enhance the work enthusiasm and motivation of midwives. Based on the Conservation of Resources (COR) theory and the JD-R theory, reducing the job demands of midwives, alleviating their work pressure, and enriching their job resources can improve their subjective well-being, thus reducing their burnout.

This study showed that career identity was negatively related to burnout, and midwives' career identity and burnout had a sequential mediation effect between job resources and turnover intention, supporting hypothesis H4a. Midwives with high career identity can experience less burnout in their work, resulting in a decrease in turnover intention. The results of Guo et al. (2015) showed that the level of career identity was closely related to burnout, and midwives with lower levels of career identity were prone to doubt their own values and their sense of work achievement. When midwives are overwhelmed by pressure and fatigue, it will affect work efficiency and quality, leading to an increase in error and turnover rates (Basar & Basim, 2016). Midwives with high levels of burnout are prone to reflecting on career satisfaction and a sense of achievement; in high-pressure environments, they are more likely to develop negative emotions, become unable to regulate their own emotions effectively, and even have a reduced ability to control their own behavior, making it less possible to obtain happiness from their profession. However, when midwives have a high level of career identity, they will be more proactive in their daily work, more enthusiastic in every task, and more patient and enthusiastic when treating patients; they can realize self-efficacy and obtain a sense of achievement and satisfaction from midwife work; their burnout is reduced, and their level of occupational happiness is improved accordingly. Contrastingly, midwives with low levels of career identity will feel powerless and doubtful in high-pressure work environments, especially when the work has high intensity and high risks but the received social recognition and

organizational rewards cannot meet the demands of their self-awareness values. That will result in stronger burnout and increase work error rates, such as hidden absenteeism, nursing errors, and even turnover.

Through the Shenzhen survey in Study 1, we have found that career identity was not associated with burnout, and career identity and burnout did not have a sequential mediation effect between job resources and turnover intention. However, from the nationwide survey in Study 2, it was found that career identity was negatively associated with burnout, the indirect effect of job resources on turnover intention through career identity and burnout was negative (-.121), and career identity and burnout had a sequential mediation effect between job resources and turnover intention.

Based on practical observations, the survey in Study 1 was conducted within Shenzhen, which is a first-tier city in China and has a higher economic level and policy sensitivity than other regions in China. With Shenzhen's unique development model, it has attracted many immigrants, most of whom are young people. On the one hand, young people pursue higher values and are willing to invest more time and energy in their work, thus having higher levels of career identity; on the other hand, due to their good physical and mental strength, they experience lower levels of burnout and are thus more inclined to accept new environments and succeed in ambiguous situations (Basar & Basim, 2016; Gómez-Urquiza et al., 2017). Individuals who accept new experiences are more willing to learn and see challenges as opportunities for personal achievements, which can reduce their emotional exhaustion (Zellars et al., 2000). In Study 2, the survey area and sample size were expanded, and thus the results showed higher accuracy and credibility. In addition, the proportion of elderly and high-risk pregnant women in Shenzhen has been significantly increasing. However, there are currently only 1048 midwives in Shenzhen, with a shortage of over 240, nearly 20%. In response to this, organizations and units at all levels in Shenzhen have enhanced the cultivation for midwives, such as strengthening standardized training for midwives and training for on-the-job midwives, to enhance their capabilities and qualifications. With this ambitious training model, the number of midwives has been constantly increasing, and their professional recognition and qualities have also improved. However, in different regions, the economic development level, culture, midwife status, work practice, and nursing mode are different, which results in differences in midwives' career identity and burnout. Therefore, in Study 2, when the survey sample was expanded nationwide, the results showed some differences from the Shenzhen survey.

Based on the results of study 2, we suggest managers pay attention to the sequential mediation effect of midwives' career identity and burnout. Midwives' burnout can be reduced

through the improvement of their career identity. First, for midwives with low levels of career identity, awareness activities and expert forums can be organized to establish their professional values and enhance their recognition of their profession (Yin et al., 2020). Giving more recognition to midwives, encouraging them to connect their personal values to their professional values, driving more conscious and proactive career motivation, and guiding their career planning can improve the quality of their work. On the other hand, for midwives with high burnout, hospital nursing managers should create a more pleasant and harmonious work environment, cultivate their ability to respond to emergencies, and take all measures to reduce their burnout, such as implementing a reward system, organizing group activities, giving them trust, improving midwifery management mode, enhancing management quality, improving the high-pressure work environment, and enhancing midwives' psychological capital level, to enable them to face work more positively, thus indirectly reducing their burnout.

5.4.2 The mediation of burnout between job resources and turnover intention

Based on the results of our study, hypothesis H2 is supported: job resources are negatively related to burnout. Besides, burnout was positively related to turnover intention, the indirect effect of job resources on turnover intention through burnout was negative (-.285), job resources were negatively related to burnout, and burnout had a mediating effect between job resources and turnover intention. The results are consistent with Z. Li et al. (2020) and Wei and Song (2012). Job resources are associated with burnout; if long-term burnout cannot be adjusted, it will lead to turnover intention. Adequate preservation of job resources can alleviate burnout, thus reducing turnover intention; with lower levels of job resources, midwives are more prone to emotional exhaustion and fatigue. Job resources have a significant predictive effect on energy, dedication, and focus (Schaufeli et al., 2002).

According to Bakker and Demerouti (2007), the JD-R model shows that job resources can buffer the physical and mental damage of employees from excessive job demands. Some scholars categorized job resources into internal resources and external resources and claimed that the resources of midwives are related to factors such as workload, long hours of work, shift work, requirements for patient relations, lack of professional autonomy, and working environment (Mollart et al., 2013; Nordang et al., 2010; Yoshida & Sandall, 2013). Midwives accompany pregnant women in intense labor pain, with high work intensity and technical challenges. In reality, midwives feel negative about their career development prospects. Most of them are simply executing doctors' decisions. They do not have the power to participate in

real decision-making, simply playing the role of “assistants” to doctors. The lack of internal resources leads to burnout, resulting in a low sense of achievement.

In this study, it has been found that burnout was positively associated with turnover intention, supporting hypothesis H5. When midwives experience long-term burnout, it can affect and damage their physical and mental health. The results are similar to the results of many studies (Jiang, 2016; Yoshida & Sandall, 2013). For instance, in a study in the UK, Yoshida and Sandall (2013) showed that burnout led to an increase in sick leave and turnover rates. They also indicated that occupational autonomy, work support, and life balance are key factors for midwives to reduce burnout and stay on the job. In Switzerland, the turnover intention of midwives is related to the lack of job resources and personnel, tense work environment, and burnout; other important explanatory variables include conflicts with colleagues and/or leaders and concerns about future promotions (Cind, 2013).

Results of structural equation modeling analysis showed that burnout played a mediating role between job resources and turnover intention, supporting hypothesis H6, which is consistent with the results of Applebaum et al. (2010). Common environmental stressors in the work environment may exert pressure on employees, which ultimately affects their turnover intention. When midwives have insufficient resources, it can lead to burnout. Prolonged burnout that cannot be addressed by self-regulation can lead to turnover intention. Van der Heijden et al. (2019) found that job resources had a predictive effect on the meaning of work while affecting burnout. The turnover intention of nurses can be predicted through fatigue symptoms: the increase in fatigue will lead to a significantly increased intention to leave the nursing industry. Marques-Pinto et al. (2018) also found that emotional exhaustion symptoms of burnout and job engagement were important mediators between nurses’ decision-making participation and turnover intention. Demerouti et al. (2001) showed the role of burnout in the relationship between stress factors and turnover intention among nursing staff. Timely compensation for midwives’ job resources can alleviate the burnout caused by the work environment, and burnout alleviation can reduce turnover intention. Burnout is considered a persistent state of dysfunction caused by long-term exposure to chronic stress, where a person is constantly faced with high-level demands but insufficient resources related to the work itself and the work environment (Buunk, 1998). The results of this study have validated the JD-R theory and are consistent with the COR theory. Burnout is most closely related to resources, indicating that employees can be sensitive to the possibility of resource loss, and there is a significant relationship between burnout and turnover intention (Lee & Ashforth, 1996).

From the results of the study, it can be seen that midwives have a high level of burnout. The

results provide insights into the work status of midwives. The job of a midwife requires complex services, including companionship, monitoring, and safety assurance. Strategies to reduce and/or prevent burnout may include restructuring the maternal care model to improve midwife job satisfaction and autonomy and strengthening the relationship between midwives and pregnant women (Jordan et al., 2013)

5.4.3 The moderating role of emotional intelligence in job resources, career identity, burnout, and turnover intention path

In this study, it was hypothesized that emotional intelligence accentuates the positive relationship between job resources and career identity. However, the study results showed a buffer (negative) effect, contrary to the hypothesis. Thus, hypothesis H5a was not supported. It indicates that emotional intelligence may “deviate” the positive effect of job resources on career identity, mitigating their relationship. When emotional intelligence was included in moderators as a personal resource, it had a mitigating (negative) moderating effect.

However, as expected, emotional intelligence mitigates the negative relationship between job resources and burnout, which means that among midwives with high emotional intelligence, the negative relationship between job resources and burnout is weaker, consistent with hypothesis H5b. Xanthopoulou et al. (2012) found that positive emotions moderated job resources, and the relationship could improve employees’ well-being in the organization.

The direct effect of emotional intelligence on career identity was significant, consistent with the results of Güleriyüz et al. (2008), who identified emotional intelligence as a positive mediator in effect on nurses’ career identity. Uchmanowicz et al. (2019) showed that career identity was one of the main factors determining healthcare professionals’ attitudes toward work and patients, thus affecting the quality of services provided. Some Chinese scholars (C. Chen et al., 2022) pointed out that emotional intelligence was a positive form of psychological capital, negatively related to work pressure but positively related to subjective well-being. It implies that nursing managers should actively conduct mental health seminars to encourage nurses to view things with a positive attitude and maintain optimistic emotions.

The interaction between job resources and emotional intelligence was negatively associated with career identity, indicating that emotional intelligence plays a buffer role in job resources’ effect on turnover intention through career identity. In a study on midwives in Polish medical institutions, Uchmanowicz et al. (2019) pointed out that the role of midwives was to provide assistance and care and to participate in the rehabilitation of each pregnant woman. These tasks

force midwives to engage emotionally in their work, which can lead to fatigue, exhaustion, and depression, thus weakening their career identity. The organizational structure, shift work, long working hours, poor infrastructure, insufficient resources, limited equipment and materials, and shortage of personnel in the midwife work may also be important factors affecting career identity.

The above results can be interpreted from two perspectives: first, it is plausible that midwives with higher emotional intelligence leverage their emotional intelligence as personal resources and thus alleviate the relationship between job resources and career identity. In other words, emotional intelligence buffer the relationship between job resources and career identity as personal resources. Another perspective is that midwives with higher emotional intelligence have a more comprehensive view of job resources and are more sensitive to the ambiguous identity of Chinese midwives. Thus, their career identity may be affected in a negative way. It is confirmed that job resources are positively associated with career identity, and emotional intelligence can mitigate the relationship between career identity and turnover intention. Therefore, effective measures can be taken to enhance midwives' career identity, provide them with more support, and help them find their spiritual foundation. Activities can be carried out to stimulate positive emotions, thereby reducing turnover intention. In addition, higher education in midwifery should attach importance to cultivating career identity and values in midwife students.

5.4.4 The moderating role of LMX in job resources, career identity, burnout, and turnover intention path

Our study showed no significant moderating effect of LMX in the path of job resources, burnout, career identity, and turnover intention. China advocates delivery in hospitals, where mothers give birth in delivery rooms. Similar to operating rooms, family members are not allowed to enter the delivery room according to the principles of disinfection and isolation management. Given this, what midwives provide to mothers during the delivery includes emotional support, companionship, and professional technical skills. At work, midwives have direct contact with the mothers for long hours and have limited opportunities for interaction with their leaders. Therefore, LMX has little impact. In addition, midwives pay more attention to the organization than the relationship with the leader. Thus, the relationship with their leaders makes little difference in their turnover intention. Therefore, hypotheses H7a and H7b are not supported.

Research has shown that a supportive LMX atmosphere and a positive and harmonious

work environment prevent nurses from burnout (Duddle & Boughton, 2009). On the contrary, inappropriate management strategies and poor work atmosphere will limit nurses' subjective motivation and autonomy, while imposing additional requirements and work pressure (Jinks et al., 2003; Tomey, 2009). Scholars have pointed out that interpersonal relationships and management affairs are the soft power of hospitals. Humanized nursing management and friendly professional collaboration between nursing managers, doctors, and nurses may play an important role in preventing nurses' burnout (Bowles & Bowles, 2000). The positive relationship between nurses generates mutual support among team members and colleagues (Purpora & Blegen, 2015). The above research results indicate that the quality of the relationship between midwives and their leaders is related to their job satisfaction. Midwives who have a good relationship with their leaders may have a higher sense of work achievement, and their leaders may have a higher recognition of their work. In this case, midwives will have more enthusiasm for their work and are more willing to maintain good relationships with their leaders and colleagues in order to maintain their professional image.

In this study, we found that the LMX did not have a moderating effect between job resources and turnover intention, similar to the results of Shen et al. (2017). A possible reason would be that midwives have minimum interaction with their supervisors due to the fact that they typically work in a more confined working environment with a few colleagues. Another possible reason is that when the data were collected, China had a strict COVID-19 policy which limited healthcare workers' socialization and interaction in hospital settings. As a result, the LMX was constrained. This indirectly explains why hypotheses H7a and H7b are not supported.

5.4.5 The moderating role of POS in job resources, career identity, burnout, and turnover intention path

The results of this study showed that POS had a significant direct effect on burnout. It is similar to the results in Rozo et al. (2017) and Shen (2007), that a lack of social and organizational support can lead to burnout syndrome, and POS has a direct and significant effect on career identity and retention intention. In hospitals that provide less organizational support for nursing, the burnout scores of nurses are twice that of other medical staff; a positive nursing practice environment can lead to higher employee satisfaction and lower burnout scores (Rozo et al., 2017). Preventing emotional exhaustion through organizational support can help nurses manage work stress, while social support can reduce nurses' sense of tension and stress response and prevent emotional exhaustion (Hayhurst et al., 2005). In this case, emotional exhaustion will

increase if nursing managers or other colleagues' support decreases while conflicts with doctors and nursing managers increase (Uchmanowicz et al., 2019). The nature of nursing work, the working conditions, and the interactions with patients, colleagues, and leaders are all sources of job dissatisfaction (Albar Marín & García-Ramírez, 2005; Aiken et al., 2009).

Results of the structural equation modeling analysis showed that the interaction between job resources and POS did not have a significant effect on burnout, indicating that POS did not play a moderating role in the process of midwife job resources influencing turnover intention through burnout. That is not consistent with the findings of Hasselhorn et al. (2006): the high turnover rate of nurses is related to the organizational conditions that form demands and resources, and the reasons for nurses' turnover intention include poor work organization, working conditions, and social atmosphere. In their study on hospital nurses, Bobbio and Manganelli (2015) also pointed out that trust in healthcare organizations was related to turnover intention, while organizational support was related to job resources. An increased distrust towards the organization results in decreased perceived good job resources, thus leading to burnout and ultimately affecting turnover intention. Wendsche et al. (2017) considered work intervals as an organizational resource that interacts with the perception of social job resources and demands. That is, intervals provide opportunities for recovery, including the opportunity to develop a positive and supportive social atmosphere. Thus, adequate work intervals can reduce burnout, thus reducing nurses' turnover intention.

In early research, Duquette et al. (1994) pointed out that workload, role ambiguity, and youthfulness were identified as the main related factors of burnout, while resilience, positive coping, and social support were the main buffering factors. Midwives who enjoy working hours without considering rest days may experience better mental health and less stress (Newton et al., 2014). It indicates that good job resources and strong organizational support can effectively alleviate the burnout of midwives. Midwives must cope with shift work, time pressure, high professional requirements, high physical demands, and high expectations of women and their families (Larsson et al., 2009; Yoshida & Sandall, 2013). In China, midwives all work full-time (8 hours a day, 5 days per week) and have night shifts once every 4-5 days (with a three-shift system). Nurses in Chinese hospitals consistently experience high levels of burnout and dissatisfaction, which are also considered important factors for high turnover rates (Lu et al., 2019; Wu et al., 2014). Ferri et al. (2016) and Hall et al. (2016) both found that the shift system was associated with a decrease in quality of life, thus increasing nurses' burnout, which may pose safety risks to patients and nurses. Dall'Ora et al. (2015) also found that prolonged 12-hour shifts and irregular working hours were risk factors for burnout. Shift work will make

health professionals more likely to feel burnout, and shift work is associated with burnout among midwives and nurses. Nursing managers should arrange work schedules reasonably, optimize the human resource structure, provide stronger organizational support for midwives, and optimize the received job resources. For example, they can allow midwives to manage their time more reasonably for a better work-life balance, so as to reduce their burnout and improve their work enthusiasm and motivation.

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Chapter 6: Conclusions

Based on research findings and discussions, we draw conclusions, discuss theoretical contributions and managerial implications, and elaborate on research limitations and future research.

6.1 Research conclusions

Guided by the JD-R model and the COR theory, this study investigated the relationships between Chinese midwives' job resources, career identity, burnout, and turnover intention, and the potential moderating role of emotional intelligence, LMX, and POS on the above relationships. Corresponding to the research questions raised in Chapter One, the key conclusions are drawn as follows.

Conclusion 1: With the change in China's birth-control policy and the impact of COVID-19, the perceived job resources of midwives in Shenzhen and across China are at a medium level; burnout is at a moderate to medium-high level, and requires more attention; the overall level of career identity is encouraging; the turnover intention is at a medium-low level.

Conclusion 2: In the current professional environment, midwife job resources are positively related to career identity and negatively related to turnover intention. Career identity is negatively related to turnover intention, and career identity has a mediating effect on the relationship between job resources and turnover intention.

Midwives' job resources are negatively related to burnout and positively related to turnover intention. Burnout is positively related to turnover intention. It has a mediating effect on the relationship between job resources and turnover intention and has a sequential mediation effect on career identity. From the perspective of organizational management, enhancing the career identity of midwives and reducing their burnout can reduce their turnover intention. Therefore, providing sufficient job resources for midwives can ultimately reduce their turnover intention.

As a career-related psychological resource, emotional intelligence plays a moderating role in the relationship between midwives' career identity, burnout, and turnover intention. However, LMX and POS have a direct effect on career identity and burnout but do not have a significant moderating effect on the relationship between career identity, burnout, and turnover intention.

Taken together, the results suggest that Chinese midwives rely on their own personal resources, such as emotional intelligence, to buffer their burnout and that both LMX and POS fail to play a protective role as moderators in the effect on burnout.

Conclusion 3: Sociodemographic factors show variation in their effects on midwives' work psychological status. Marital status has an effect on the job resources of midwives in Shenzhen. The job resources of married midwives were significantly higher than that of single midwives.

The mean of emotional intelligence among midwives with undergraduate education or above in midwifery was significantly lower than that of midwives with college or vocational school education in midwifery. Midwives with different midwifery education showed a significant difference in burnout; those with undergraduate education in midwifery had higher burnout scores. Both midwifery education and emotional intelligence made a significant difference in midwives' burnout scores in Shenzhen. Midwives with different midwifery education showed a significant difference in emotional intelligence; those with undergraduate education in midwifery had the highest emotional intelligence scores.

The type of employment made a significant difference in midwives' LMX. The LMX scores of permanent-employee midwives were lower than that of non-permanent-employee midwives. There was also a significant difference in the scores of POS between non-permanent and permanent-employee midwives. Midwives in different job positions showed significant differences in their career identity and LMX, with midwives in delivery rooms and head nurses scoring higher than those in obstetric wards. Among the social demographic factors, job positions, midwifery education, professional titles, and institutional sizes did not have a significant effect on midwives' turnover intention.

6.2 Theoretical contributions

In terms of this study's contribution to the literature, first of all, it provides support for the applicability of the JD-R model to the midwife population under the changes in China's birth-control policy. Currently, there are very few studies that have applied the JD-R model to the population of midwives (Kool et al., 2019).

Secondly, the hypothesized model was tested with two cross-sectional studies, contributing to the literature on the JD-R model and COR theory. In particular, the different results regarding emotional intelligence, LMX, and POS enrich the literature and inspire future studies.

Lastly, with nationwide samples (68 hospitals in 23 administrative regions across China), this study well documented Chinese midwives' job resources, career identity, burnout, and

turnover intention.

6.3 Managerial implications

This study aims to construct a comprehensive multivariable latent structural model and explore the underlying causes and effects of the influencing factors so as to predict the situational development patterns of midwives' work attitudes, based on which strategies can be put forward to enhance midwives' stability and motivation. The study provides a reference for health administrative authorities or medical institutions in policymaking with the aim of improving the working environment of midwives and ultimately improving the quality and efficiency of midwifery services.

The *Outline of the "Healthy China 2030" Plan*, released by China in 2019 (State Council of the PRC, 2019), highlights the improvement of health services for key groups such as mothers and infants, which implies that midwives will assume an increasingly important mission in maternal and infant health care. The management and allocation of midwives are prerequisites for mothers to receive optimal health care. This study provides a profound understanding of the occupation and psychological status of midwives, a special group with limited job resources, high burnout, and high career identity, and the results have significant empirical meanings. In August 2022, the National Health Commission of China pointed out in the *Guiding Opinions and Answers on Further Improving and Implementing Positive Measures to Support Fertility* that in China, the total fertility rate of women of childbearing age is 1.3, at a relatively low level, so optimized fertility policies should be implemented to drive long-term balanced development of the population. There are many factors affecting fertility desire, among which the safety and comfort of childbirth are important ones that some women will consider. Midwives, as carriers of life, can provide continuous services for women and infants, such as necessary support, care, assistance, and a sense of safety throughout the entire process, covering pregnancy, childbirth, and postpartum. They are the most trustworthy persons for pregnant and postpartum women during the entire childbirth process. To improve the current fertility situation, it is necessary to activate the fertility desire, making women of childbearing age desire and willing to have children. In this case, it is necessary to carry out plans at the national level to cultivate a high-quality and professional team of midwives, who can provide midwifery services with comfort and safety.

6.3.1 Implications for policymakers

Midwives play a very important role in ensuring the health of pregnant women and newborns. Their burnout is at a medium-high level, and they are confused regarding their career development, which can be attributed to multiple factors: midwifery professional titles do not have an independent system; there are no standards and procedures for midwife admission and registration, and midwives are considered part of nurses; there are no laws and regulations to define the responsibilities of midwives; they have limited work scope and can only provide midwifery services in the delivery room. The role of a midwife drifts between doctors and nurses. In many people's understanding, a midwife is simply a person assisting with childbirth or a helper for obstetricians. In fact, midwives play a very important role in maternal and child health and deserve more respect (Sandall, 2012). Policymakers can think about how to define midwives' work scope clearly. Given the development of midwives' professional identity, it is necessary to offer an educational curriculum that can reinforce human values (Sim-Sim et al., 2022).

Midwives generally have lower educational levels and lower professional titles. Policymakers can change the status of midwives in the industry through higher education. There are multiple ways to consider. One is to collaborate with higher education institutions to cultivate high-level talents, expand the number of midwives, and address the shortage of talents. The second is to pay attention to the working environment and benefits of midwives, separate midwives from nursing, conduct professional title evaluations for midwives, and expand career development opportunities. The third is to strengthen the core competency training for current on-the-job midwives, develop a core competency evaluation system, and establish incentive mechanisms for talent retention through benefits and development opportunities.

The proportion of permanent-employee midwives is low as midwives are mostly non-permanent-employee midwives. It is recommended that the health administrative authorities formulate policies and regulations for midwives, make a reasonable allocation of midwife human resources, retain senior midwives, improve the competence of young midwives, and raise the public's awareness of midwives' value. Measures and supports should be carried out to reduce midwives' burnout and improve the stability of the midwife team.

6.3.2 Suggestions for medical institutions' management

The positive effect of job resources implies that hierarchical management of midwives can be carried out to effectively control the work process and continuously improve the quality of

midwifery services. Actively exploring the training models for midwifery nurses and clinical midwifery experts can enhance young midwives' sense of security, provide senior midwives with professional value satisfaction, improve doctor-patient relationships, and increase the satisfaction of pregnant women and their families.

We can also get implications from the mediating role of burnout and the moderating role of emotional intelligence. Research on burnout originated in the 1970s, and scholars have been conducting studies in different countries for over 50 years. However, due to continuous environmental pressure and challenges to employees and the entire organization, burnout remains a problem to address. Increasing midwives' job resources, providing targeted training on midwives' emotional intelligence and communication skills, and increasing organizational support can help reduce midwives' burnout. Hospitals and managers can make management decisions to reduce midwives' burnout, effectively help alleviate their work pressure, improve their emotional intelligence, stabilize their emotions, and establish a midwife team with high work efficiency.

The mediating role of career identity and its sequential mediation effect on burnout imply that continuously enhancing midwives' career identity and creating a good work environment are effective measures to reduce turnover intention. Internationally, midwives and nurses are parallel nursing teams. It can be understood that the elements of a midwife's practice environment include job satisfaction, burnout, turnover intention, maternal and childcare quality reports, maternal and neonatal mortality rates, and rescue failures. In hospitals with better nursing environments, the risk of maternal and neonatal mortality and rescue failure is significantly reduced. Some scholars pointed out that the elements of the practice environment must be improved along with the allocation and education of midwives in order to achieve high-quality care (Aiken et al., 2009).

The direct effect of POS implies that we should establish a well operational structure for midwives. Research has shown that to improve patient safety, efforts should be made to address the emotional needs of medical staff, as emotional needs are positively related to job resources. An effective measure is to improve the communication of medical staff and to create a cooperative atmosphere (Elfering et al., 2017). According to another study (Müller-Rockstroh & Schnepf, 2018), hospitals should help retained midwives develop coping strategies, and the most important one is to have a well-functioning team and to offer sufficient resource support, especially for young midwives.

6.3.3 Suggestions for professional associations and academic societies

Shenzhen, a special economic zone in China, has superior policy resources and development conditions compared to other regions. It is of great significance to make an attempt in the “legislation” for China’s midwifery industry, starting from Shenzhen. That will also show the progressiveness of Shenzhen’s pilot demonstration zone. The suggestions for improving the supervision system of the midwife practice are as follows:

Initiate the construction of a midwife practice supervision system in Shenzhen, coordinate relevant departments and organizations to invite industry experts to conduct feasibility studies, draft the *Shenzhen Midwife Management Regulations*, and complete the writing and certification of supporting documents.

In the form of industry management regulations, define the definition, role, identity, scope of practice, rights and obligations, and supervision and management of “midwives”.

From a legislative perspective, attempt to establish midwife admission criteria, certification criteria, education standards, and professional title promotion system, to comprehensively promote midwife industry management and boost maternal and child health.

6.3.4 Suggestions for midwives

The results show that emotional intelligence has a moderating effect, which illustrates the importance of emotional ability in work. Emotional intelligence moderates psychological factors by regulating emotions. Midwives’ prolonged exposure to high-pressure work environments can lead to insufficient psychological energy and decreased self-regulation ability. A study in Germany on the relationship between work stress and self-depletion found that in a work environment that continuously depletes psychological resources, psychological energy will remain insufficient for a long time and may even get exhausted, resulting in job burnout (Saleem et al., 2022). In patients with chronic diseases, self-regulation of fatigue can lead to a lack of self-healthy behavior and a decrease in disease management ability (Diestel & Schmidt, 2011). Other related research (J. Li, 2021) also showed that individuals with high self-depletion tend to have reduced prosocial behavior (Zhou et al., 2020). The work and service of a midwife also require the involvement of psychological energy, and the most effective and rapid measure is to improve midwives’ self-regulation ability for emotions.

Hospital managers should enhance midwives’ sense of self-worth by enhancing their emotional management skills, cultivating their communication skills, and enhancing their humanistic care quality. Midwives can regularly and actively participate in psychological

counseling, be fully aware of the importance of self-regulation, and learn methods to improve emotional intelligence. For example, they can learn interpersonal skills by watching talk shows, movies, and related books. They can also participate in various activities to meet people from different fields, enrich their own life, consciously train their communication skills, improve their emotional intelligence, and obtain the ability to resist external pressure by enhancing their internal drive. Finally, they can improve their emotional intelligence through emotional labor. Emotional labor is a psychological regulatory process that individuals engage in to achieve the emotional state to the organization's satisfaction (Öz et al., 2023). By utilizing the emotional labor of natural behavior, they can adequately handle doctor-patient relationships, doctor-nurse relationships, and relationships between superiors and subordinates and create a harmonious work atmosphere (Liu et al., 2022).

Midwives should actively participate in the decision-making related to their professional practice. Striving to improve midwives' professional happiness is a key strategy to reduce their turnover intention (Marques-Pinto et al., 2018). Midwives, especially junior midwives, should proactively improve their professional skills, by taking online courses or participating in trainings related to pregnant women and newborns organized by their leaders or hospitals. Given the limited literature search channels, midwives can take courses related to literature search, research design, and upskilling. Instead of passive upskilling due to credit requirements and regulations, midwives can proactively take continuing education. They can also broaden their horizons and achieve comprehensive self-development by acquiring knowledge beyond their profession and reading a lot of works in humanities, such as literature, art, hobbies, philosophy, management, and psychology.

Generally speaking, midwives play a crucial role in reducing child mortality and improving maternal health but have not received much attention. Through this study, we have achieved some meaningful results, but it should be noted that the analysis and discussion of some results are the author's personal perspectives based on observation and reflection. Many Chinese midwives are currently confused regarding their professional status and are striving to show their value and contribution in the highly medicalized and commercialized obstetric services. The following may help them overcome the difficulties:

(1) National regulatory system: it can enhance midwives and the public's awareness of midwives' career identity, show their professional values and behaviors through common norms, and help establish educational and revalidation standards.

(2) The government's authorization and recognition of midwives' values for maternal and infant health from pregnancy to postpartum.

(3) Support professional organizations and academic groups: establish midwife societies or associations to represent women and midwives in improving and optimizing midwifery practices.

(4) High-quality higher education in midwifery: once certified, practitioners will be able to assume all aspects of the role of a midwife.

(5) Establish and strengthen a culture of continuous learning and upskilling and expand opportunities for collaboration with other professions through reflective practices.

(6) The ability to provide unique knowledge for midwifery through clinical auditing and research.

(7) Establish a quality system and process for midwifery services where clinical results and women's experience data are shared, and provide opportunities for debate and questioning regarding the research results.

6.4 Limitations

This study is not without limitations. We would like to highlight the following.

The surveys were conducted during the third year of COVID-19, which may impact Chinese midwives' perception of their occupational status.

The cross-sectional study design may limit the inference of causal effects between the variables. In future research, longitudinal studies or diary studies can be considered to address causal effects and persistent paths.

The focus of this study is to support the applicability of the JD-R model through the path of job resources. Each occupation has its own specific job resources, which are multi-dimensional. The job resources in this study only cover the perspectives of job control, social support, and career development. That may not be sufficient for a full understanding of midwives' job resources. In future research, different dimensions of job resources can be included for further exploration.

6.5 Future research

Future research can be conducted from the following perspectives:

Future research may attempt to explore other relationships between the variables to establish a more comprehensive framework for the study of midwife human resources and occupational mental health. For example, future studies may investigate whether job demands

affect career identity and burnout, ultimately affecting turnover intention, and the effect of social demographic factors on mediating relationships.

Based on the findings of this study, future research may explore the intervention plans and their effectiveness. For example, this study shows that emotional intelligence has a significant moderating effect on midwives' burnout; we can develop measures accordingly to enhance emotional intelligence and then evaluate their effectiveness. Moreover, research can be conducted to investigate whether hierarchical training and management can improve midwives' career identity, thereby affecting burnout and turnover intention.

In this study, we tested the moderating effect of emotional intelligence as an overall dimension. Empirical evidence showed that its moderating effect was significant. The emotional intelligence scale consists of 16 items, categorized into four dimensions. Future research can consider dividing emotional intelligence into four dimensions for a more in-depth analysis.

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Annex A: Additional Tables

Table a.1 Fitting indices of the job resources scale (initial and corrected models) in Study 1

Index	Criteria	Measured value	Goodness-of-fit	Corrected measured value	Corrected goodness-of-fit	Measured value in Study 2	Goodness-of-fit in Study 2
CMIN/DF	<5, <3 (better)	4.764	Good	4.645	Good	8.114	Moderate
CFI	>0.9	.868	Moderate	.961	Very good	.956	Very good
RMSEA	<0.1, <0.05 (better)	.125	Good	.123	Good	.118	Good
TLI	>0.9	.824	Moderate	.921	Very good	.911	Very good

Table a.2 Factor analysis of the job resources scale in Study 1

Component	Initial eigenvalues			Extraction Sums of Squared Loadings		
	Total	Variance percentage	Cumulative %	Total	Variance percentage	Cumulative %
1	3.057	61.145	61.145	3.057	61.145	61.145
2	.689	13.774	74.919			
3	.544	10.887	85.805			
4	.413	8.257	94.062			
5	.297	5.938	100			

Table a.3 CITC and reliability analysis results of the job resources scale in Study 1

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
JR12	19.10	9.879	.541	.829	.837
JR13	19.62	8.718	.614	.814	
JR14	19.35	9.291	.690	.791	
JR15	19.42	9.348	.641	.803	
JR16	19.49	9.014	.726	.780	

Table a.4 CITC and reliability analysis results of the career identity scale in Study 1

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
PI51	10.10	3.379	.583	.791	.801
PI53	9.98	2.995	.713	.660	
PI55	10.14	2.763	.654	.725	

Table a.5 Fitting indices of the burnout scale (initial and corrected models)

Index	Criteria	Measured value	Goodness-of-fit	Corrected measured value	Corrected goodness-of-fit
CMIN/DF	<5, <3 (better)	6.283	Moderate	3.548	Good
CFI	>0.9	.972	Very good	.992	Very good
RMSEA	<0.1, <0.05 (better)	.148	Moderate	.103	Good
TLI	>0.9	.944	Very good	.977	Very good

Table a.6 KMO and Bartlett's tests of the burnout scale

Kaiser-Meyer-Olkin (KMO)		.839
Measure of Sampling Adequacy		
Bartlett's Test of Sphericity	Approx. Chi-square df	674.552 6
	Significance	<.0001

Table a.7 Factor analysis of the burnout scale

Component	Initial eigenvalues			Extraction Sums of Squared Loadings		
	Total	Variance percentage	Cumulative %	Total	Variance percentage	Cumulative %
1	3.177	79.421	79.421	3.177	79.421	79.421
2	.366	9.143	88.564			
3	.264	6.596	95.16			
4	.194	4.840	100			

Table a.8 CITC and reliability analysis results of the burnout scale in Study 1

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
BO57	9.02	10.439	.798	.889	.914
BO58	9.44	9.675	.852	.870	
BO59	9.31	10.273	.810	.885	
BO60	9.91	10.988	.754	.904	

Table a.9 CITC and reliability analysis results of the turnover intention scale in Study 1

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
TI61	4.27	4.496	.870	.903	.935
TI62	4.50	4.475	.873	.900	
TI63	4.62	4.734	.857	.914	

Table a.10 Fitting indices of the emotional intelligence scale (initial and corrected models)

Index	Criteria	Measured value	Goodness-of-fit	Corrected measured value	Corrected goodness-of-fit
CMIN/DF	<5, <3 (better)	2.695	Very good	\	\
CFI	>0.9	.949	Very good	\	\
RMSEA	<0.1, <0.05 (better)	.084	Very good	\	\
TLI	>0.9	.937	Very good	\	\

Note: All items of emotional intelligence were included in the model. There was no further correction and fitting.

Table a.11 CITC and reliability analysis results of the emotional intelligence scale in Study 1

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
EI35	69.86	105.510	.533	.941	.941
EI36	69.47	104.615	.696	.937	
EI37	69.45	104.448	.734	.936	
EI38	69.33	104.788	.718	.937	
EI39	69.66	104.632	.715	.937	
EI40	69.89	102.686	.740	.936	
EI41	69.88	103.099	.739	.936	
EI42	69.97	103.215	.741	.936	
EI43	69.70	104.525	.725	.936	
EI44	69.99	102.589	.703	.937	
EI45	69.84	102.725	.728	.936	
EI46	69.48	105.919	.629	.939	
EI47	69.80	105.579	.620	.939	
EI48	69.76	104.559	.703	.937	
EI49	69.84	106.813	.580	.940	
EI50	69.70	105.523	.684	.937	

Table a.12 Fitting indices of the job resources scale (initial and corrected models) in Study 2

Index	Criteria	Measured value in Study 2	Goodness-of-fit in Study 2
CMIN/DF	<5, <3 (better)	8.114	Moderate
CFI	>0.9	.956	Very good
RMSEA	<0.1, <0.05 (better)	.118	Good
TLI	>0.9	.911	Very good

Table a.13 CITC and reliability analysis results of the job resources scale in Study 2

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
Previous JR12	18.26	11.542	.519	.793	.808
Previous JR13	19.02	9.706	.626	.764	
Previous JR14	18.43	10.675	.673	.749	
Previous JR15	18.46	11.435	.507	.797	
Previous JR16	18.66	10.546	.667	.749	

Table a.14 CITC and reliability analysis results of the career identity scale in Study 2

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
Previous PI51	10.13	3.341	.599	.792	.807
Previous PI53	10.01	2.828	.730	.657	
Previous PI55	10.17	2.831	.645	.750	

Table a.15 CITC and reliability analysis results of the burnout scale in Study 2

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
Previous BO57	9.98	14.751	.752	.886	.903
Previous BO58	10.59	13.576	.795	.871	
Previous BO59	10.21	13.557	.830	.858	
Previous BO60	10.97	14.177	.758	.884	

Table a.16 CITC and reliability analysis results of the turnover intention scale in Study 2

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
Previous TI61	4.34	4.496	.870	.903	.935
Previous TI62	4.96	4.475	.873	.900	
Previous TI63	5.20	4.734	.857	.914	

Table a.17 CITC and reliability analysis results of the emotional intelligence scale in Study 2

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
Previous EI35	69.20	96.207	.480	.935	.935
Previous EI36	68.84	93.813	.680	.931	
Previous EI37	68.86	93.081	.713	.930	
Previous EI38	68.74	94.517	.645	.931	
Previous EI39	69.15	93.641	.644	.931	
Previous EI40	69.37	92.297	.660	.931	
Previous EI41	69.40	92.167	.688	.930	
Previous EI42	69.44	92.678	.684	.930	
Previous EI43	69.29	92.139	.721	.929	
Previous EI44	69.49	92.603	.587	.933	
Previous EI45	69.30	92.196	.678	.931	
Previous EI46	68.90	93.746	.648	.931	
Previous EI47	69.19	91.999	.729	.929	

Previous EI48	69.28	91.923	.708	.930
Previous EI49	69.25	92.398	.695	.930
Previous EI50	69.19	92.956	.692	.930

Table a.18 Fitting indices of the LMX scale (initial and corrected models)

Index	Criteria	Measured value	Goodness-of-fit	Corrected measured value	Corrected goodness-of-fit
CMIN/DF	<5, <3 (better)	12.453	Moderate	9.459	Moderate
CFI	>0.9	.934	Very good	.971	Very good
RMSEA	<0.1, <0.05 (better)	.150	Moderate	.129	Moderate
TLI	>0.9	.900	Good	.941	Very good

Table a.19 CITC and reliability analysis results of the LMX scale

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
LMX18	16.82	18.443	.590	.889	.886
LMX21	16.89	15.063	.812	.840	
LMX22	17.25	14.585	.765	.854	
LMX23	16.79	16.001	.738	.858	
LMX24	16.57	17.353	.747	.859	

Table a.20 Fitting indices of the POS scale (initial and corrected models)

Index	Criteria	Measured value	Goodness-of-fit	Corrected measured value	Corrected goodness-of-fit
CMIN/DF	<5, <3 (better)	16.374	Moderate	9.775	Moderate
CFI	>0.9	.954	Very good	.988	Very good
RMSEA	<0.1, <0.05 (better)	.173	Moderate	.131	Moderate
TLI	>0.9	.924	Good	.965	Very good

Table a.21 CITC and reliability analysis results of the POS scale

Item	Mean after item deletion	Variance after item deletion	CITC	Cronbach's α after item deletion	Cronbach's α
POS25	11.09	12.360	.823	.896	.921
POS28	11.23	12.320	.812	.900	
POS29	11.03	12.708	.814	.899	
POS30	11.28	11.976	.824	.896	

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Annex B: Questionnaire on Midwife I (Shenzhen)

Hello! First of all, thank you very much for participating in this survey. The purpose of this questionnaire is to find out the work status of midwives and to develop practical and feasible methods to improve the work environment and service quality of midwives accordingly. All information you provide is for research purposes only and is strictly kept confidential. Thank you again for your participation!

For each of the following statements, please choose the response that best suits your personal situation based your own experience. 1 = completely disagree (or never) → 6 = completely agree (or always).

1. I have a lot of work to do [multiple choice] *

- | | | | | | |
|---|---|--|--|--|---|
| ☐ Completely disagree (1 point) | ☐ Disagree (2 points) | ☐ Slightly disagree (3 points) | ☐ Basically agree (4 points) | ☐ Agree (5 points) | ☐ Strongly agree (6 points) |
|---|---|--|--|--|---|

2. My job requires high attention and focus [multiple choice] *

- | | | | | | |
|---|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree |
|---|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|

3. To complete the work, I need to put in extra effort [multiple choice] *

- | | | | | | |
|---|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree |
|---|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|

4. My job requirements have interfered with my family and my family life [multiple choice] *

- | | | | | | |
|-----------------------------|------------------------------|---------------------------------|---|--|---------------------------------------|
| ☐ Never | ☐ Rarely | ☐ Sometimes | ☐ A few times every month | ☐ A few times every week | ☐ Almost everyday |
|-----------------------------|------------------------------|---------------------------------|---|--|---------------------------------------|

5. I must be quick and responsive in my work [multiple choice] *

- | | | | | | |
|---|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree |
|---|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|

6. I have been bullied (or complained about) in the past 12 months [multiple choice] *

- | | | | | | |
|-----------------------------|------------------------------|---------------------------------|---|--|---------------------------------------|
| ☐ Never | ☐ Rarely | ☐ Sometimes | ☐ A few times every month | ☐ A few times every week | ☐ Almost everyday |
|-----------------------------|------------------------------|---------------------------------|---|--|---------------------------------------|

7. I have received requirements that do not match the position of a midwife [multiple choice] *

- | | | | | | |
|-----------------------------|------------------------------|---------------------------------|---|--|---------------------------------------|
| ☐ Never | ☐ Rarely | ☐ Sometimes | ☐ A few times every month | ☐ A few times every week | ☐ Almost everyday |
|-----------------------------|------------------------------|---------------------------------|---|--|---------------------------------------|

8. There is a personal conflict within my team [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

9. I can count on my colleagues for help and support when needed. [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

10. It is sufficiently clear what I need to do in my job [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

11. I can deliver the quality of work that is expected by others [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

12. I feel appreciated by the people I work for (pregnant women and their families) [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

13. I can participate in decision making about work-related issues [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

14. I have sufficient opportunities at work to use my skills and abilities [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

15. I have all the tools (tools, equipment, instruments, software) needed to do my job properly [multiple choice questions] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

16. I am sufficiently informed about the developments within my organization [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

17. My job provides opportunities for promotion [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

The purpose of the following questions is to understand midwives' ability of control in their work. Please read each statement carefully and choose the answer that best matches your own situation. The numbers 1-6 represent the degree of agreement, from weak to strong.

18. I can personally control the quality of work [multiple choice] *

- ☐ Strongly disagree (1 point)
 ☐ Disagree (2 points)
 ☐ Slightly disagree (3 points)
 ☐ Basically agree (4 points)
 ☐ Agree (5 points)
 ☐ Strongly agree (6 points)

19. When doing the work, I can control the types of methods to be used [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

20. I can control the physical environment (lighting, temperature) of the workplace [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

21. I can control the time and degree of collaboration and cooperation with others in my work [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

22. I have control over how to complete the work [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

23. I can control when I take breaks and vacations [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

24. I can control how to take breaks during work (such as lunch time) [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

25. Generally speaking, I have overall control over my work and work-related matters [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

26. I can control the choice of workload in various tasks [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

27. In the department, I can control over the system and work procedure [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

28. I must obtain a nursing practice certificate in order to work as a midwife [multiple choice] *

- ☐ Strongly disagree
 ☐ Disagree
 ☐ Slightly disagree
 ☐ Basically agree
 ☐ Agree
 ☐ Strongly agree

- | disagree | disagree | agree | agree |
|---|--------------------------------|---|---------------------------------------|
| 29. I have the authority to decorate, rearrange, or personalize the workplace [multiple choice] * | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree |
| | | | ☐ Agree |
| | | | ☐ Strongly agree |
| 30. I can control the amount of resources I receive (tools, materials, etc.) [multiple choice] * | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree |
| | | | ☐ Agree |
| | | | ☐ Strongly agree |
| 31. I can control the degree to which I am disturbed by others [multiple choice] * | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree |
| | | | ☐ Agree |
| | | | ☐ Strongly agree |
| 32. I can control how others evaluate my work [multiple choice] * | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree |
| | | | ☐ Agree |
| | | | ☐ Strongly agree |
| 33. I can control the time I go to and get off work on time [multiple choice] * | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree |
| | | | ☐ Agree |
| | | | ☐ Strongly agree |
| 34. I can control the amount of remuneration from work [multiple choice] * | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree |
| | | | ☐ Agree |
| | | | ☐ Strongly agree |

The purpose of the following questions is to understand midwives' emotional issues in their work. Please read each statement carefully and choose the answer that best matches your own situation. The numbers 1-6 represent the degree of agreement, from weak to strong.

- | | | | | | |
|---|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|
| 35. I have a good sense of why I have certain feelings most of the time [multiple choice] * | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree |
| (1 point) | (2 points) | (3 points) | (4 points) | (5 points) | (6 points) |
| 36. I have good understanding of my own emotions [multiple choice] * | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree |
| 37. I really understand what I feel [multiple choice] * | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree |
| 38. I always know whether or not I am happy [multiple choice] * | | | | | |
| ☐ Strongly | ☐ Disagree | ☐ Slightly | ☐ Basically | ☐ Agree | ☐ Strongly |

- | disagree | | disagree | | agree | | agree |
|--|--------------------------------|---|---------------------------------------|-----------------------------|--------------------------------------|-------|
| 39. I always know my friends' emotions from their behavior [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 40. I am a good observer of others' emotions [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 41. I am sensitive to the feelings and emotions of others [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 42. I have good understanding of the emotions of people around me [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 43. I always set goals for myself and then try my best to achieve them [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 44. I always tell myself I am a competent person [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 45. I am a self-motivated person [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 46. I would always encourage myself to try my best [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 47. I am able to control my temper and handle difficulties rationally [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 48. I am quite capable of controlling my own emotions [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |
| 49. I can always calm down quickly when I am very angry [multiple choice] * | | | | | | |
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree | ☐ Basically agree | ☐ Agree | ☐ Strongly agree | |

50. I have good control of my own emotions [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

51. I feel that I am a member of the midwife profession [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

52. As a midwife, the core goal of my work is to ensure the safety of mother and child [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

53. It is important for me to devote myself to midwife work [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

54. If I have the chance to choose, under the same working conditions, I will choose a job that is not related to midwife [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

55. I am happy with choosing midwife as my profession [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree ☐ Basically agree ☐ Agree ☐ Strongly agree

Thank you very much for your careful responses until this stage. Please maintain patient as there is still a little more until this important survey is completed. We are very interested in knowing about the feelings that work pressure brings to you. The numbers 1-6 represent the strength of your feelings, from weak to strong.

56. I feel burned out from my work [multiple choice] *

- ☐ Never (1 point) ☐ Rarely (2 points) ☐ Sometimes (3 points) ☐ A few times every month (4 points) ☐ A few times every week (5 points) ☐ Almost everyday (6 points)

57. I feel used up at the end of the workday [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

58. I feel fatigued when I get up in the morning and have to face another day on the job [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

59. Working with people all day is really a strain for me [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

60. I feel like I'm at the end of my rope [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

61. I am actually planning to quit my current position as a midwife [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

62. I want to quit my midwife occupation [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

63. I often seriously consider quitting the midwife job within a year [multiple choice] *

- ☐ Never ☐ Rarely ☐ Sometimes ☐ A few times every month ☐ A few times every week ☐ Almost everyday

Basic information

1. Your name: [fill in the blank] *

The name of the hospital where you work [fill in the blank] *

2. Your job position in the obstetric department: [Multiple choice] *

- ☐ Midwife in delivery rooms ☐ Midwife in obstetric wards ☐ Head nurse ☐ Others

3. Age (years): [fill in the blank] *

4. Marital status [Multiple choice] *

- ☐ Married ☐ Single ☐ Others (e.g., divorced)

5. Professional title [Multiple choice] *

- ☐ Junior nurse ☐ Junior nurse ☐ Nurse-in- ☐ Associate ☐ Professor of

practitioner

charge

professor of
nursing

nursing

6. Years of experience as a midwife: [fill in the blank] *

7. Years of service in the hospital [fill in the blank] *

8. Your midwifery education [Multiple choice] *

- ☐ Vocational school ☐ College ☐ Undergraduate ☐ Master's or above

9. Your highest education level [Multiple choice] *

- ☐ College or below ☐ Bachelor's ☐ Master's or above

10. Number of beds in your hospital [Multiple choice] *

- ☐ Less than 500 ☐ 501-1000 ☐ 1001-1500 ☐ 1501-2000 ☐ More than 2000

Thank you very much for your participation and cooperation. Wish you success and happiness!

Annex C: Questionnaire on Midwife II (Nation-wide)

Hello! First of all, thank you very much for participating in this survey. The purpose of this questionnaire is to find out the work status of midwives and to develop practical and feasible methods to improve the work environment and service quality of midwives accordingly. All information you provide is for research purposes only and is strictly kept confidential. Thank you again for your participation!

For each of the following statements, please choose the response that best suits your personal situation based your own experience. 1 = Strongly disagree (or never) → 6 = Strongly agree (or always).

1. I have a lot of work to do [multiple choice] *

- | | | |
|---|---|--|
| ☐ Strongly disagree (1 point) | ☐ Disagree (2 points) | ☐ Slightly disagree (3 points) |
| ☐ Basically agree (4 points) | ☐ Agree (5 points) | ☐ Strongly agree (6 points) |

2. My job requires high attention and focus [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

3. To complete the work, I need to put in extra effort [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

4. I feel appreciated by the people I work for (pregnant women and their families) [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

5. I can participate in decision making about work-related issues [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

6. I have sufficient opportunities at work to use my skills and abilities [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

7. I have all the tools (tools, equipment, instruments, software) needed to do my job properly [multiple

choice questions] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

8. I am sufficiently informed about the developments within my organization [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

9. My job provides opportunities for promotion [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

The purpose of the following questions is to understand midwives' ability of control in their work. Please read each statement carefully and choose the answer that best matches your own situation. The numbers 1-6 represent the degree of agreement, from weak to strong.

10. When doing the work, I can control the types of methods to be used [multiple choice] *

- | | | |
|---|---|--|
| ☐ Strongly disagree (1 point) | ☐ Disagree (2 points) | ☐ Slightly disagree (3 points) |
| ☐ Basically agree (4 points) | ☐ Agree (5 points) | ☐ Strongly agree (6 points) |

11. I can control the choice of workload in various tasks [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

12. In the department, I can control over the system and work procedure [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

13. I must obtain a nursing practice certificate in order to work as a midwife [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

14. I can control the amount of resources I receive (tools, materials, etc.) [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

15. I can control the degree to which I am disturbed by others [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
|---|--------------------------------|---|

- ☐ Basically agree ☐ Agree ☐ Strongly agree

16. I can control the time I go to and get off work on time [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

17. I can control the amount of remuneration from work [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

18. I usually know how satisfied my leader is with what I do [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

19. I think my leader understands my problems and needs [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

20. I think my leader recognizes well my potential [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

21. Regardless of how much formal authority my leader has built into his/her position, he/she would use his/her power to help me solve problems in my work [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

22. Regardless of the amount of formal authority my leader has, he/she would “bail me out,” at his/her expense [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

23. I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

24. I have a good working relationship with my leader [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
- ☐ Basically agree ☐ Agree ☐ Strongly agree

25. The hospital values my contribution to its well-being [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
- ☐ Basically agree ☐ Agree ☐ Strongly agree

26. The hospital strongly considers my goals and values [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
- ☐ Basically agree ☐ Agree ☐ Strongly agree

27. Help is available from the hospital when I have a problem [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
- ☐ Basically agree ☐ Agree ☐ Strongly agree

28. The organization really cares about my well-being (e.g., work, family, and physical & mental well-being) [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
- ☐ Basically agree ☐ Agree ☐ Strongly agree

29. The hospital takes pride in my accomplishments at work [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
- ☐ Basically agree ☐ Agree ☐ Strongly agree

30. The hospital tries to make my job as interesting as possible [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
- ☐ Basically agree ☐ Agree ☐ Strongly agree

The purpose of the following questions is to understand midwives' emotional issues in their work. Please read each statement carefully and choose the answer that best matches your own situation. The numbers 1-6 represent the degree of agreement, from weak to strong.

31. I have a good sense of why I have certain feelings most of the time [multiple choice] *

- ☐ Strongly disagree (1 point) ☐ Disagree (2 points) ☐ Slightly disagree (3 points)
- ☐ Basically agree (4 points) ☐ Agree (5 points) ☐ Strongly agree (6 points)

32. I have good understanding of my own emotions [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

33. I really understand what I feel [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

34. I always know whether or not I am happy [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

35. I always know my friends' emotions from their behavior [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

36. I am a good observer of others' emotions [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

37. I am sensitive to the feelings and emotions of others [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

38. I have good understanding of the emotions of people around me [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

39. I always set goals for myself and then try my best to achieve them [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

40. I always tell myself I am a competent person [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

☐ Basically agree ☐ Agree ☐ Strongly agree

41. I am a self-motivated person [multiple choice] *

☐ Strongly disagree ☐ Disagree ☐ Slightly disagree

- ☐ Basically agree ☐ Agree ☐ Strongly agree

42. I would always encourage myself to try my best [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

43. I am able to control my temper and handle difficulties rationally [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

44. I am quite capable of controlling my own emotions [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

45. I can always calm down quickly when I am very angry [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

46. I have good control of my own emotions [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

47. I feel that I am a member of the midwife profession [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

48. As a midwife, the core goal of my work is to ensure the safety of mother and child [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

49. It is important for me to devote myself to midwife work [multiple choice] *

- ☐ Strongly disagree ☐ Disagree ☐ Slightly disagree
☐ Basically agree ☐ Agree ☐ Strongly agree

50. If I have the chance to choose, under the same working conditions, I will choose a job that is not related to midwife [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

51. I am happy with choosing midwife as my profession [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

Thank you very much for your careful responses until this stage. Please maintain patient as there is still a little more until this important survey is completed. We are very interested in knowing about the feelings that work pressure brings to you. The numbers 1-6 represent the strength of your feelings, from weak to strong.

52. I feel burned out from my work [multiple choice] *

- | | | |
|---|---|--|
| ☐ Strongly disagree (1 point) | ☐ Disagree (2 points) | ☐ Slightly disagree (3 points) |
| ☐ Basically agree (4 points) | ☐ Agree (5 points) | ☐ Strongly agree (6 points) |

53. I feel used up at the end of the workday [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

54. I feel fatigued when I get up in the morning and have to face another day on the job [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

55. Working with people all day is really a strain for me [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

56. I feel like I'm at the end of my rope [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

57. I am actually planning to quit my current position as a midwife [multiple choice] *

- | | | |
|---|--------------------------------|---|
| ☐ Strongly disagree | ☐ Disagree | ☐ Slightly disagree |
| ☐ Basically agree | ☐ Agree | ☐ Strongly agree |

58. I want to quit my midwife occupation [multiple choice] *

☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

59. I often seriously consider quitting the midwife job within a year [multiple choice] *

☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

Basic information

1. The name of the hospital where you work [fill in the blank] *

2. Your job position in the obstetric department: [Multiple choice] *

☐ Midwife in delivery rooms ☐ Midwife in obstetric wards ☐ Head nurse ☐ Others

3. Age (years): [fill in the blank] *

4. Marital status [Multiple choice] *

☐ Married ☐ Single ☐ Others (e.g., divorced)

5. Professional title [Multiple choice] *

☐ Junior nurse ☐ Junior nurse practitioner ☐ Nurse-in-charge ☐ Associate professor of nursing ☐ Professor of nursing

6. Years of experience as a midwife: [fill in the blank] *

7. Years of service in the hospital [fill in the blank] *

8. Your midwifery education [Multiple choice] *

☐ Vocational school ☐ College ☐ Undergraduate ☐ Master's or above

9. Your highest education level [Multiple choice] *

☐ College or below ☐ Bachelor's ☐ Master's or above

10. Number of beds in your hospital [Multiple choice] *

☐ Less than 500 ☐ 501-1000 ☐ 1001-1500 ☐ 1501-2000 ☐ More than 2000

11. You are [Multiple choice] *

☐ Permanent-employee midwife ☐ Non-permanent-employee midwife

Thank you very much for your participation and cooperation. Wish you success and happiness!