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ORIGINAL RESEARCH

Impact of Occupational Risks of Medical Staff on Willingness to Occupational Mobility in COVID-19 Pandemic

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Purpose: Medical staff are a crucial resource in the battle against the COVID-19 pandemic but are vulnerable to both SARS-CoV-2 infection and negative psychological outcomes. This study evaluated medical staff's occupational risks, professional identity, and occupational mobility intention during the pandemic.

Patients and Methods: The questionnaire was anonymous. All respondents were Chinese medical personnel.

Results: Our findings suggest that the professional risks faced by medical professionals can enhance their professional mobility willingness and weaken their professional identity. They cannot only directly enhance their professional mobility willingness but also indirectly strengthen their professional mobility willingness through professional identity. The objective support and subjective support obtained by medical professionals cannot only alleviate the negative impact of occupational risk on professional identity alone but also jointly, and in the process of their joint mitigation, the former has been internalized and absorbed, while the latter has a stronger mitigation effect. The objective support and subjective support obtained by medical professionals can neither alone nor jointly alleviate the direct and positive impact of occupational risk on the willingness of occupational mobility.

Conclusion: The occupational risks faced by medical personnel can improve their willingness to move professionally and weaken their occupational identity. Early screening of high-risk groups for turnover intention among health care workers and more psychosocial health care and physical protection are needed during the COVID-19 pandemic in China.

Keywords: occupational risks, occupational mobility intention, professional identity, social support, COVID-19 pandemic

Introduction

Occupational mobility refers to workers changing their occupations and the process of modifying workers' roles.[1] The occupational mobility intention of medical staff represents their tendency before engaging in occupational mobility. Perceived and handled risks have a significant impact on a series of psychological activities and behavioral intentions.[2] Occupational risks also affect a range of attitudes and behaviors related to one's job.[3] Occupational risks include the possibility of stress, stress, danger, and other serious consequences caused by a particular work environment.[4] The outbreak of the COVID-19 pandemic started in Wu Han and gradually spread across the country, resulting in the closure of cities, villages, communities, and schools. As domestic outbreaks were effectively controlled, foreign outbreaks (especially in western countries) began, and the risk of foreign imports remained high. When would the global outbreak be effectively contained? Since the crisis began, health care personnel have been working on the front lines in the fight against the virus and have faced challenges at work. Some research clearly shows that hospitals and health care facilities may face major risks for COVID-19 transmission due to airborne spread or indirect (ie, via fomites) transmission.[5,6] According to resource protection theory, this concentrated exposure to workplace risks can seriously threaten the resources of health care workers in a short period, thus prompting them to take steps to avoid further loss of resources.[7]

According to the theory of job search, the main reason for individual career mobility is economic motivation.[8,9] Usually, individuals will compare costs and benefits when choosing career mobility. When the benefits of career transition are higher than the costs, individuals are more willing to undertake career mobility.[1] During the COVID-19 pandemic, medical staff have repeatedly thought about how to avoid further loss of resources and compare the costs and benefits of occupational mobility, and to ask the question, "Should I continue to remain in this long-criticized profession[5]?" 2019 Occupational mobility in relation to the coronavirus disease, although not directly producing occupational mobility behaviors, has severely affected the stability of health care workers during the COVID-19 epidemic and is detrimental to the stability of the health care profession and the safety of health care workers.[5]

Professional identity is an internal incentive for professional development and is the result of overcoming externalities and a sense of alienation in one's profession and realizing the internal unity of personal value and meaning with professional value and meaning.[10,11] It requires professionals to accept and love their career from the bottom of their hearts. The professional identity of medical staff directly affects the desired intensity of their professional growth and relates to emotional experiences, such as the level of job burnout and the index of job happiness.[12,13] During the outbreak of the COVID-19 pandemic, many occupational risks faced by medical staff seriously impacted their occupational attitude and reduced their sense of identity with the medical profession, resulting in the desire to seek another career. Some scholars have proven that occupational identity has a significant, negative influence on occupational mobility intention.[14,15] Against the background of the COVID-19 pandemic, what role does occupational identity play between the occupational risks faced by medical staff and occupational mobility intention? This requires further discussion.

Social support is the degree to which an individual feels valued, cared for, and respected by his/her family or others, and can be qualitatively divided into objective support (visible or actual support) and subjective support (experienced or emotional support).[16,17] During the COVID-19 pandemic, medical staff have received financial support, free online training, subsidies, labor rights, and protection of interests; objective support from family members, friends, relatives, health management departments, industry organizations, and companies; and subjective support such as condolences, care, and psychological counseling. Can these social support factors alleviate the impact of occupational risks, such as viral infection and an uncertain return time on the occupational mobility intention and occupational identity of medical staff? Can the mediating role of occupational identity between these occupational risks and occupational mobility intentions be further mitigated? These questions need to be answered by empirical research.

In summary, this study is based on resource conservation theory and career search theory. In the period of the COVID-19 pandemic, medical staff's professional risk, professional identity, social support, and professional flow have interfaced with the relationship between the conceptual model. This has occurred through empirical methods validating medical staff's professional risk regarding the will of the occupation flow mechanism, further exploring career identity in one of the important intermediary roles and two dimensions of social support (objective and subjective support) in one of the important regulatory roles. This paper aims to solve the problem of the relationship between occupational risks and the occupational mobility intention of medical staff, and to provide a reference for the practical problem of maintaining the stability of medical staff under the influence of the COVID-19 pandemic.

Literature Review and Hypotheses
Occupational Risk and Occupational Mobility

Occupational mobility refers to workers changing occupations and the process of changing the role of workers.[18] The professional mobility of medical professionals is the process of when they switch to another profession, changing from medical to non-medical jobs. The willingness of medical professionals to move professionally is a tendency or intention before they develop professional mobility.[19] Medical professionals are one of the vital forces in promoting the development of the medical industry, and a key factor in enhancing the quality of medical services. During the COVID-19 pandemic, although the professional willingness of medical professionals does not directly result in professional mobility behavior, it seriously affects the stability of medical professional teams, and is not conducive to storing energy for the restoration and development of the medical industry.

People's perceived and coping risks have a significant impact on a range of psychological activities and behavioral intentions.[20] Occupational risks include the possibility of stress, stress, danger, and other serious consequences caused by a specific work environment.[11] Generally, any occupation may suffer some kind of loss or danger, such as police threats,[12] misdiagnoses,[14,15] judges holding someone accountable in the wrong case,[21] and so on. According to the theory of resource conservation,[22] individuals are driven to protect existing resources and to acquire new ones. If an individual's resources are threatened or lost and not replenished promptly, he/she will take measures to avoid further loss of resources.[22] During the COVID-19 pandemic, medical staff have faced occupational risks such as contracting the virus on the job, being overworked in testing for the virus, and even enduring scolding and beatings from patients. These risks not only threaten the economic sources and physical/mental health of medical professionals, but also cause great professional distress. As a result, medical professionals have to use a great amount of finances, time, and mental resources to respond.[23] During the epidemic, to avoid further loss of immunization resources, medical professionals have considered adopting occupational mobility measures such as looking for other career opportunities. According to the theory of career search, the main reason for individual occupational mobility caused by economic motivation is that individuals usually compare costs and benefits when making career mobility choices. When the benefits of career conversion are higher than the costs paid, individuals are more willing to engage in career mobility.[24] For other industries, some scholars have discussed the relationship between occupational risks and the willingness to change jobs or quit one's current job. Occupational risks are an important factor affecting doctors' job burnout.[25] Professional risk has a good predictive effect on turnover intention, and the inherent and social risks in professional risk have a positive effect on the turnover intention of organizational members.[26] Based on the above analysis, the following hypotheses are proposed:

H1: In the context of the COVID-19 pandemic, the professional risks faced by medical professionals can enhance their willingness to move professionally.

The Mediating Role of Professional Identity

Professional identity is an intrinsic motivating factor for the development of professional people. It is the result of overcoming the externalities and alienation of the profession and achieving personal value and meaning, as well as the internal unity of professional value and meaning.[27] The professional identity of medical staff directly affects the intensity of their career development and is related to burnout and the emotional experience of workplace well-being.[28] During the COVID-19 outbreak, medical personnel have needed to meet assist patients and other personnel in the course of their work, and have faced inevitable viral infection and psychological burden during this period.[28] Career identity has a significant negative impact on the willingness to move professionally.[29,30] Therefore, this study asserts that in the case of the COVID-19 pandemic, the professional risks faced by medical professionals will reduce their professional identity and further increase their willingness to move. Based on the above analysis, the following hypotheses are proposed:

H2: In the context of the COVID-19 pandemic, the occupational risks faced by medical professionals can weaken their professional identity.

H3: In the context of the COVID-19 pandemic, the occupational identity of medical professionals mediates between their occupational risks and their willingness to change jobs.

The Moderating Role of Social Support

Social support is the degree to which an individual feels valued, cared for, and respected by his/her family or others[16] and can be qualitatively divided into objective support (visible or actual support) and subjective support (experienced or emotional support).[17] Scholars have conducted a series of studies on the relationship between social support and mental health.[31,32] For example, Park investigated the moderating effect of social support on smartphone use after work and job burnout.[33] However, there is still a lack of research on the social support of medical professionals, and only some scholars have explored it. Wang found that medical professionals hope to gain understanding and support from friends and relatives.[34] Sochos found that with the improvement of social support, the job burnout of medical professionals decreased correspondingly, and different types of

social support have different impacts on the job burnout of medical professionals.[35] Wang analyzed the relationship between the job burnout of medical professionals and social support, and proposed suggestions for improving the social support of medical professionals to alleviate job burnout.[34] These findings provide a useful reference for this study to explore the social support of medical professionals in the context of the COVID-19 pandemic.

During the COVID-19 pandemic outbreak, medical professionals have mainly obtained support from family, friends, and relatives. Additionally, there is much support from the external environment, such as medical management departments, medical associations, hospitals, and other economic support, free online trainings, subsidies, the protection of the rights and interests of labor, and other forms of objective support and sympathy subjective support, care, and psychological counseling. Social support can protect individuals in a state of stress, which indicates the corresponding buffering effect.[16] As the coronavirus outbreak occurred worldwide, medical professionals focused on viral infection, long-term income, interruptions, occupational exposure risk concentration of stress, and medical professional groups to obtain objective and subjective support to ease the influence of stress on flow professional intention and professional identity, and to further ease professional identity in the intermediary role between stress and occupational mobility intention. According to resource conservation theory,[22] medical professionals suffering from social pathologies will receive more social, objective, and subjective support from medical staff personnel, and will suffer economic losses and use mental resources to obtain more compensation, making career risk less perceivable. Eliminating the career risk of occupational mobility will directly affect the negative influence and professional identity, and further ease the professional identity in professional risk and the professional intermediary role between flow intention. In the case of the COVID-19 pandemic, medical professionals have received both objective and subjective support from family members, friends, and relatives, medical management departments, medical professionals' associations, and hospitals, all of which can play a role in the above mitigation process. Subjective support is more meaningful than objective support because although it is not an objective reality, as a perceived psychological reality, it can affect people's behavior and development.[17] Therefore, when objective and subjective support work together in the above mitigation process, objective support (objective reality) needs to be internalized into subjective support (psychological reality) to play a practical mitigation role. Based on the above analysis, the following hypothesis is proposed:

H4: In the context of the COVID-19 pandemic, objective support (H4a) and subjective support (H4b) experienced by medical professionals alone could mitigate the negative impact of occupational risks on occupational identity.

H5: In the context of the COVID-19 pandemic, both objective and subjective support for medical professionals could mitigate the negative impact of occupational risks on occupational identity; the latter was more effective.

H6: In the context of the COVID-19 pandemic, objective support (H6a) and subjective support (H6b) experienced by medical professionals alone could mitigate the direct positive impact of their occupational risks on their occupational mobility intentions.

H7: In the context of the COVID-19 pandemic, both objective and subjective support for medical professionals could jointly mitigate the direct positive impact of their occupational risks on their occupational mobility intentions; the latter had a stronger mitigating effect.

H8: In the context of the COVID-19 pandemic, objective support (H8a) and subjective support (H8b) independently alleviated the mediating role of occupational identity between occupational risks and occupational mobility.

H9: In the context of the COVID-19 pandemic, objective and subjective support for medical professionals could jointly mitigate the mediating effect of their occupational identity between occupational risks and occupational mobility intention; the latter had a stronger mitigating effect.

Research Model

Based on resource conservation theory and career search theory, medical professionals' risk regarding occupational flow will influence and further explore career identity, and two dimensions of social support (objective and subjective support)

in one of the important intermediary functions and regulation functions will be put forward in the following research model (Figure 1):

Materials and Methods

Measurement Indicators

The following actions were taken to ensure that the measurement tools had good reliability and validity. First, we used international journals to identify reliable scales published by authoritative bodies. As the scales were developed in English-speaking contexts, we used a translation–back-translation process to develop the scales. For this, we invited two Ph.D. students from the United States and the United Kingdom to translate the English scales into Chinese. Following this, two Ph.D. students in the field of management were invited to translate the scales back into English. Finally, two professors of English were invited to compare the three versions of the scales and suggest any changes needed to avoid linguistic ambiguities.

Occupational Risks (OR)

There are great differences in the risks faced by different occupations. The risk scale of other occupations is not suitable for the professional risks of medical staff, and the relevant research on the measurement of professional risks of medical staff is almost absent. Therefore, this study draws on relevant research[4] during the outbreak of the COVID-19 pandemic. Five senior medical staff were interviewed using the WeChat and Tencent social tools (QQ), and the medical staff occupational risk scale in the context of the outbreak of the COVID-19 pandemic was developed, including 3 items such as "during the outbreak of the COVID-19 pandemic, you are very worried about having contact with new coronavirus patients in your workplace." This scale uses a 5-point Likert scale. The higher the score, the greater the professional risk of medical staff.

Occupational Mobility Intention (OMI)

Based on relevant studies,[36,37] during the outbreak of the COVID-19 pandemic, this study interviewed 5 senior medical staff with the help of WeChat and QQ, and developed an occupational mobility intention scale for medical staff in the context of the COVID-19 pandemic, including 4 items such as "During the COVID-19 pandemic, you have often considered giving up your medical career." The scale adopts a 5-point Likert scale; the higher the rating, the stronger the medical staff's occupational mobility.

Professional Identity (PI)

In this study, based on related research,[38,39] the coronavirus was examined during the outbreak. With WeChat and QQ, five senior medical staff members were socially interviewed, and the development of the coronavirus under the outbreak
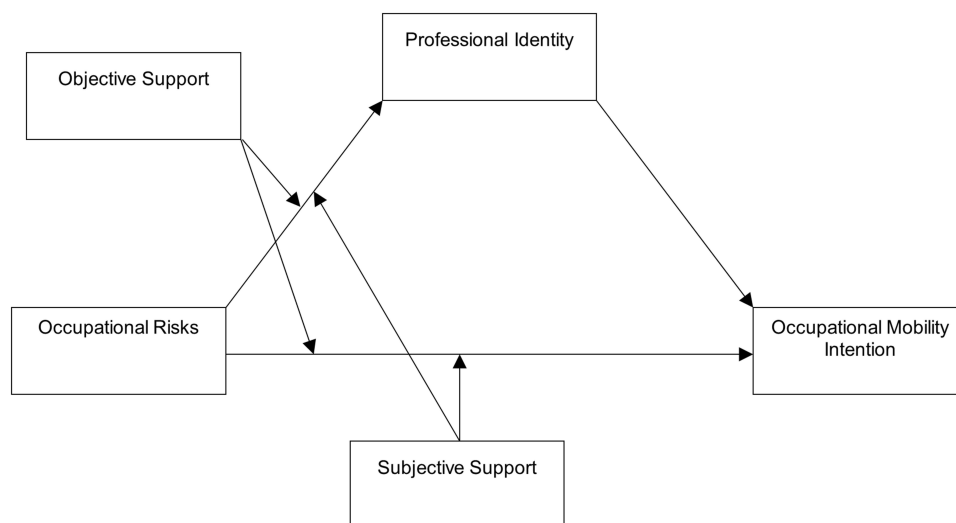

Figure 1 Research model.

of the medical staff professional identity scale, including "During the COVID-19 pandemic, you believe that the future expectations and goals will be implemented in the medical staff job" and three other entries. The scale adopted a 5-point Likert scale; the higher the rating, the stronger the professional identity of medical staff.

Social Support (SOS)

In this study, based on related research,[16,17] social support will be divided into objective support (visible, actual support) and subjective support, emotional support (experience), objective support, OBS including, "During the COVID-19 pandemic, health management department, health organizations and health agencies actively provide you with free online training" and 3 other items; subjective support (SUS) includes three items: "During the COVID-19 pandemic, your family understands, supports and cares for you." The scale adopted the Likert rating scale; the higher the rating, the more social support the medical staff received.

Data Collection

To collect data for the current study, the heads of different institutions were contacted for permission. Then, doctors from different hospitals, including government, private, and semi-government, were approached. Due to the current condition in the world due to the spread of coronavirus, many doctors were approached through online forms. Informed consent was obtained, and the confidentiality of the information was assured. Demographic sheets and three questionnaires of OR, OMI, PI, and SOS were provided to them to collect data. The Institutional Review Board of Hunan Normal University approved the study design and data collection. All procedures involving human participants were conducted based on the ethical standards of the institutional research committee, the ethical standards of the APA, and the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Because this study obtained personal information from the participants, their consent was needed. The objectives were communicated to the individuals who participated, and they were also informed of the confidentiality of the information they provided. Participants were also told that they had the option to end the survey if they felt uncomfortable answering any of the questions in the questionnaire. Finally, a total of 272 questionnaires were collected, 183 of which were valid, with an effective response rate of 67.28%. The basic information of the interviewees is shown in Table 1. Among them, all respondents under the age of 20 were hospital interns because urgent nucleic acid tests require so much medical staff that young medical interns are also required to work.

Results

The Common Method Biases Test

This study of potential error variable control for common method bias testing of sample data, namely, using AMOS 22.0 confirmatory factor analysis, and based on this general common method bias as a latent variable model, if containing common method biases, involves latent variables of the fit of the model, is significantly better than not containing common variance deviation of the latent variable model, then the common method bias effect was inspected. According to the inspection results (Table 2 for joining the common method biases latent variables, model fitting index CMIN lower 1.566, CMIN/DF lower 0.005, NFI increased by 0.001, RMSEA lower 0.001, IFI, TLI, CFI had no change), on the whole, joining the common method biases latent variables after the fit of the model was not significantly improved, so this study sample data do not contain serious common method biases.

Reliability and Validity Analysis

In this study, SPSS 19.0 was used for the reliability test, and the results (Table 3) showed that the Cronbach's alpha coefficients of six variables (dimensions), such as occupational risks, were all greater than 0.8, indicating that the scale of this study had good reliability.

AMOS 22.0 was used for confirmatory factor analysis, and the results (Table 4) showed that the main model fitting indices CMIN/DF (1.111) were less than 2, NFI (0.934), IFI (0.993), TLI (0.991), and CFI (0.993) were all greater than 0.9, and RMSEA (0.025) was less than 0.05, indicating that the overall model fitting was ideal. The combination of reliability (CRs) of occupational risks (0.850), occupational mobility intention (0.824), professional identity (0.813),

Table 1 Demographic Description of the Sample

Project		The Number of	The Percentage /%	Cumulative Percentage / %
Gender	Male	71	38.80	38.80
	Female	112	61.20	100.00
	Total	183	100.00	
Age	Under the age of 20	49	26.78	26.78
	20 ~ 30 years old	77	42.08	68.85
	31~40 years old	46	25.14	93.99
	Above 40 years old	11	6.01	100.00
	Total	183	100.00	
Education level	High school and below	20	10.93	10.93
	Junior college degree	90	49.18	60.11
	Bachelor's degree	52	28.42	88.52
	Master's degree or above	21	11.48	100.00
	Total	183	100.00	

Table 2 Common Method Biases Test

Model	CMIN	DF	P	CMIN/DF	NFI	IFI	TLI	CFI	RMSEA
M1	104.431	94	0.217	1.111	0.934	0.993	0.991	0.993	0.025
M2	102.865	93	0.227	1.106	0.935	0.993	0.991	0.993	0.024
M2-M1	−1.566	−1	0.010	−0.005	0.001	0	0	0	−0.001

Note: M1 is the model without the common variance deviation latent variable, and M2 is the model with the common method deviation latent variable.

Table 3 Reliability Analysis

Variable	OR	OMI	PI	SOS	OBS	SUS
Cronbach's Alpha	0.848	0.820	0.805	0.800	0.844	0.844

Abbreviations: OR, occupational risks; OMI, occupational mobility intention; PI, occupational identity; SOS, social support; OBS, objective support; SUS, subjective support.

objective support (0.846) and subjective support (0.854) are all greater than 0.7. The average variances (AVEs) of occupational risks (0.653), occupational mobility intentions (0.544), professional identity (0.596), objective support (0.650) and subjective support (0.663) are all greater than 0.5,[40] showing that five variables, such as professional risk (dimensions), of the measurement model have good convergent validity. Discriminant validity can be tested by comparing the AVE square root of a variable with the absolute value of all correlation coefficients involved in the variable; that is, if the AVE square root of all variables is greater than the absolute value of all correlation coefficients involved in the corresponding variable, this means there is good discriminant validity between variables.[41] The difference between the validity of test results (Table 5), according to the five variables such as professional risk (dimensions) of the AVE square root involved, was greater than the corresponding variable (dimensions) of all the absolute values of the

Table 4 Confirmatory Factor Analysis and Convergence Validity Test

Variable	Indicators	SFL	S.E.	t	Factor Loading	CR	AVE
OR	OR3	1.000			0.789	0.850	0.653
	OR2	0.947	0.084	11.228*	0.811		
	OR1	1.089	0.102	10.718*	0.824		
OMI	OMI1	1.000			0.746	0.824	0.544
	OMI2	1.015	0.096	10.553*	0.810		
	OMI3	1.124	0.109	10.348*	0.801		
	OMI4	0.747	0.103	7.260*	0.568		
PI	PI1	1.000			0.724	0.813	0.596
	PI2	1.310	0.120	10.879*	0.911		
	PI3	0.859	0.102	8.413*	0.659		
OBS	OBS3	1.000			0.749	0.846	0.650
	OBS2	0.940	0.095	9.863*	0.741		
	OBS1	1.297	0.115	11.297*	0.916		
SUS	SUS3	1.000			0.909	0.854	0.663
	SUS2	0.770	0.075	10.338*	0.694		
	SUS1	0.878	0.070	12.567*	0.825		
Fitting index	CMIN	CMIN/DF	NFI	IFI	TLI	CFI	RMSEA
	104.431	1.111	0.934	0.993	0.991	0.993	0.025

Note: *P<0.05.
Abbreviations: OR, occupational risks; OMI, occupational mobility intention; PI, professional identity; SOS, social support; OBS, objective support; SUS, subjective support.

Table 5 Discriminant Validity Test

Variable	OR	OMI	PI	OBS	SUS
OR	**0.808**				
OMI	0.684	**0.738**			
PI	−0.606	−0.763	**0.772**		
OBS	−0.455	−0.633	0.619	**0.806**	
SUS	−0.492	−0.513	0.454	0.368	**0.814**

Note: The bold value on the diagonal is the square root of AVE; Off-diagonal values are the correlation coefficient matrix estimated by confirmatory factor analysis.
Abbreviations: OR, occupational risks; OMI, occupational mobility intention; PI, professional identity; OBS, objective support; SUS, subjective support.

correlation coefficient, the shaded part in Table 5; for example, professional identity (PI) of the AVE square root (0.772) is greater than that involving professional identity (PI) of all relevant coefficients (0.606, 0.763, 0.619, 0.454) of absolute value, so 5 variables such as professional identity (dimensions) have a good difference between validity.

Descriptive Statistical Analysis

SPSS 19.0 was used for descriptive statistical analysis and correlation analysis. The results (Table 6) showed that the mean value of five variables (dimensions), including occupational risks, was between 2.56–3.34, and the standard deviation was between 0.878–1.035. The absolute value of skewness (0.141–0.669) and the absolute value of kurtosis (0.426–1.064) of the five variables (dimension) such as occupational risk are all less than 3, and the absolute value of kurtosis (0.426–1.064) are all less than 10, indicating that the sample data are approximately normally distributed on the whole, and the subsequent regression analysis can be carried out smoothly. Occupational risks were significantly and positively correlated with occupational mobility intention (r=0.574, P < 0.05) and negatively correlated with occupational identity (r=−0.508, P < 0.05), objective support (r=−0.375, P < 0.05), and subjective support (r=−0.434, P < 0.05). Occupational mobility intention was negatively correlated with occupational identity (r=−0.617, P < 0.05), objective support (r=−0.537, P < 0.05), and subjective support (r=−0.434, P < 0.05). Occupational identity was significantly and positively correlated with objective support (r=0.506, P < 0.05) and subjective support (r=0.416, P < 0.05). Objective support was positively correlated with subjective support (r=0.314, P < 0.05).

Hypothesis Testing

Regression analysis was conducted using PROCESS 3.3 based on SPSS 19.0, and the results are shown in Table 7. Model M1 is used for testing H1, M2, and M6 for testing H2 and H3, M3 and M4 for testing H4a and H4b, and M7 and M8 for testing H5a and H5b. H6a and H6b were tested by a bootstrap test of the mediating effect of mediating variables at different levels (mean-SD, mean, mean+SD)] and the moderating mediating effect index.[42] M5 and M9 are complete models, which put two moderators, objective support and subjective support, into the model at the same time.

Main Effect Test

The positive effect of occupational risks on the willingness of professional mobility was significant (M1, B = 0.487, P < 0.05). That is, the occupational risks faced by medical professionals can enhance their willingness for professional mobility during the COVID-19 pandemic, so H1 was supported.

Table 6 Descriptive Statistical Analysis and Correlation Analysis

Variable	OR	OMI	PI	OBS	SUS
Minimum value	1.00	1.00	1.00	1.00	1.00
Maximum value	5.00	5.00	5.00	5.00	5.00
Mean value	3.34	3.14	2.56	2.72	2.93
Standard deviation	1.035	0.878	0.957	0.991	1.019
Skewness	−0.279	0.199	0.141	0.669	0.297
kurtosis	−0.798	−0.588	−0.581	−0.426	−1.064
OR	1.000				
OMI	0.574*	1.000			
PI	−0.508*	−0.617*	1.000		
OBS	−0.375*	−0.537*	0.506*	1.000	
SUS	−0.434*	−0.434*	0.416*	0.314*	1.000

Note: *P<0.05.
Abbreviations: OR, occupational risks; OMI, occupational mobility intention; PI, professional identity; OBS, objective support; SUS, subjective support.

Table 7 Regression Analysis Results

The Dependent Variable	OMI					PI			
	M1	M2	M3	M4	M5	M6	M7	M8	M9
Analysis of regression	1.511*	3.173*	3.880*	4.018*	3.795*	4.131*	2.628*	2.678*	2.690*
The dependent variable									
OR	0.487*	0.298*	0.262*	0.265*	0.237*	−0.470*	−0.319*	−0.333*	−0.253*
Intervening variable									
PI		−0.402*	−0.295*	−0.352*	−0.266*				
Moderator variable									
OBS			−0.233*		−0.218*		0.383*		0.306*
SUS				−0.129*	−0.102			0.295*	0.211*
Moderator variable									
OR×OBS			−0.038		−0.022		0.169*		0.105
OR×SUS				−0.046	−0.031			0.252*	0.191*
R2	0.330	0.473	0.520	0.488	0.529	0.258	0.398	0.378	0.456
F	89.041*	80.685*	48.242*	42.426*	33.000*	62.855*	39.442*	36.255*	29.614*

Note: *$P<0.05$.
Abbreviations: OR, occupational risks; OMI, occupational mobility intention; PI, professional identity; OBS, objective support; SUS, subjective support.

Mediation Effect Test

Occupational risks had a significant, negative impact on occupational identity (M6, B=−0.470, P < 0.05); that is, during the COVID-19 pandemic, the occupational risks faced by medical professionals weakened their professional identity, so H2 was supported. Compared with Model M1, both occupational risks (independent variable) and occupational identity (mediating variable) were included in M2, and the positive impact of occupational risks on occupational mobility intention was significant (M2, B=0.298, P < 0.05) and decreased, while the negative impact of occupational identity on occupational mobility intention was significant (M2, B=−0.402, P < 0.05). In other words, during the COVID-19 pandemic, the occupational risks faced by medical professionals cannot only directly enhance their occupational mobility willingness, but also indirectly strengthen their occupational mobility willingness through their occupational identity. H3 is true.

To further test the mediating effect of occupational identity, the PROCESS 3.3 macro of SPSS 19.0 was used for the bootstrap test (repeated 5000 times, confidence level 95%). The results (Table 8) showed that the mediating effect of occupational identity was significant (B=0.189, 95% CI =[0.127,0.226]), and H3 was verified again. In addition, the mediating effect of occupational identity accounted for 38.81% of the total effect, indicating that the occupational risks

Table 8 Bootstrap Test of Mediating Effect of Occupational Identity (Repeated for 5000 Times)

	B	BootSE	95% CI	
			BootLLCI	BootULCI
Total effect	0.487*			
Direct effect	0.298*			
Indirect effect	0.189	0.035	0.127	0.266

Note: *$P<0.05$.

faced by medical professionals during the COVID-19 pandemic had a direct effect on their occupational mobility intentions.

Regulation Effect Test

(1) The moderating effect of occupational risks on occupational identity

According to Model M7, the regression coefficient of the interaction between occupational risks and objective support (OR×OBS) was significant (M7, B=0.169, P < 0.05); that is, in the case of the COVID-19 pandemic, the objective support experienced by medical professionals could mitigate the negative impact of occupational risks on occupational identity, so H4a was supported. Objective support for further analysis of how to reduce the negative impact of occupational risks on professional identity, at the same time, using the collocation method and J - N [36], simple slope inspection results (Table 9), revealed that in the collocation method, the simple slope in objective support was

Table 9 Simple Slope Test

Moderator Variable	Methods	Values		B	se
OBS	Collocation method	Mean-sd		−0.486*	0.079
		Mean		−0.319*	0.059
		Mean+sd		−0.152	0.091
	J-N method	Dividing point		% below	% above
		0.882		77.6	22.4
		OBS		<0.882	>0.882
		P		<0.05	>0.05
SUS	Collocation method	Mean-sd		−0.590*	0.077
		Mean		−0.333*	0.061
		Mean+sd		−0.076	0.089
	J-N method	Dividing point		% below	% above
		0.714		68.85	31.15
		SUS		<0.714	>0.714
		P		<0.05	>0.05
OBS+SUS	Collocation method	OBS	SUS	B	se
		Mean-sd	Mean-sd	−0.552*	0.090
		Mean-sd	Mean	−0.357*	0.083
		Mean-sd	Mean+sd	−0.162	0.107
		Mean	Mean-sd	−0.448*	0.078
		Mean	Mean	−0.253*	0.060
		Mean	Mean+sd	−0.058	0.084
		Mean+sd	Mean-sd	−0.345*	0.107
		Mean+sd	Mean	−0.150	0.088
		Mean+sd	Mean+sd	0.045	0.100

Note: *P<0.05.
Abbreviations: OBS is objective support; SUS is subjective support; "+" means common regulatory effect.

significant at low levels (OBS = mean - sd, B = −0.486, P < 0.05), while in objective support, it was not significant at high levels (OBS = mean + sd, B =- 0.152, P < 0.05). In the j-n method, when the objective support is less than the cutoff point, the simple slope is significant (OBS < 0.882, P < 0.05), while when the objective support is greater than the cutoff point, the simple slope is not significant (OBS < 0.882, P < 0.05). To better understand the moderating effect of objective support between occupational risks and occupational identity, SPSS 19.0 was used to produce Figure 2. The regression fitting curve between occupational risks and occupational identity is steeper when objective support is high (OBS=mean +sd) and low (OBS=mean-sd).

According to Model M8, the regression coefficient of the interaction term of occupational risks and subjective support (OR × SUS) is significant (M8, B = 0.252, P < 0.05). That is, in the context of the COVID-19 pandemic, the subjective support obtained by medical professionals can alleviate the negative impact of occupational risks on professional identity, so H4B is supported. To further analyze how subjective support alleviates the negative impact of occupational risks on occupational identity, a simple slope test was conducted using the point selection method and j-n method [36]. The results (Table 9) demonstrated that in the point selection method, the simple slope was significant at the low level of subjective support (SUS = mean -sd, B = −0.590, P < 0.05), but not significant at the high level of subjective support (SUS = mean + sd, B = −0.076, P >0.05). In the j-n method, the simple slope is significant when subjective support is less than the boundary point (SUS < 0.714, P < 0.05), but not significant when subjective support is greater than the boundary point (SUS < 0.714, P < 0.05). To better understand the moderating effect of subjective support on occupational risks and occupational identity, SPSS 19.0 was used to make Figure 3. The regression curve between occupational risks and professional identity is steeper than that under the high level of subjective support (SUS = mean +sd).

M9, relative to the Model M7 and M8 in objective support and subjective support both in terms of regulating variables, professional risk with objective for support interactive items (OR×OBS) of regression coefficients was not significant (M9, B = 0.150, P>0.05) st13, professional risk and subjective support interactive items (OR×SUS) regression coefficient significantly (M9, B = 0.191, P < 0.05), the regulating effect of objective support was internalized absorption. Therefore, in the case of the COVID-19 pandemic, objective and subjective support experienced by medical professionals could jointly mitigate the negative impact of occupational risks on occupational identity, and the latter had a stronger mitigating effect. Thus, H5 was established. For further analysis of how objective and subjective support
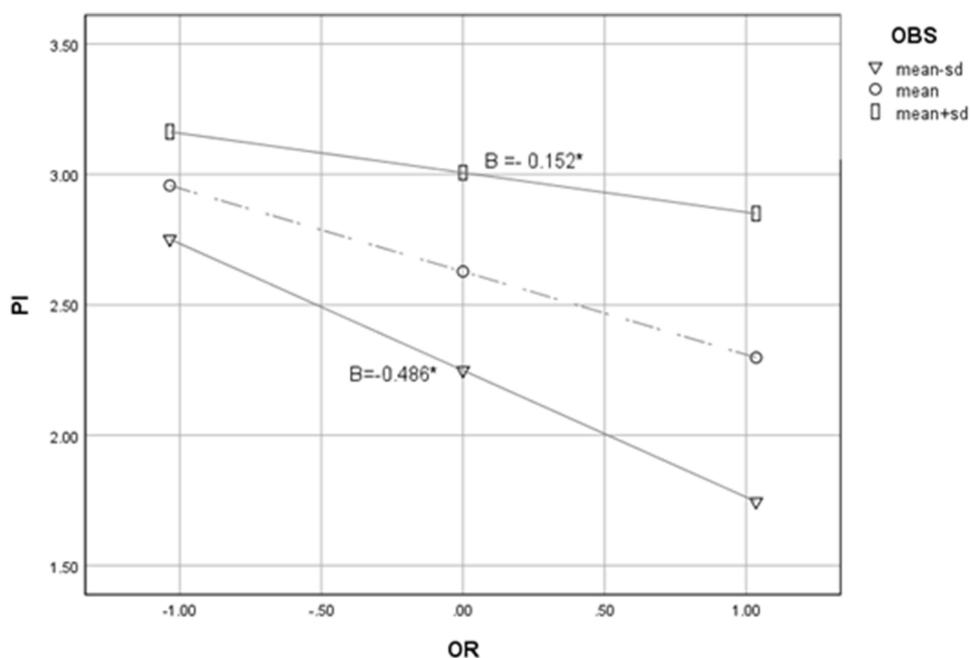

Figure 2 The moderating effect of objective support between occupational risks and occupational identity.
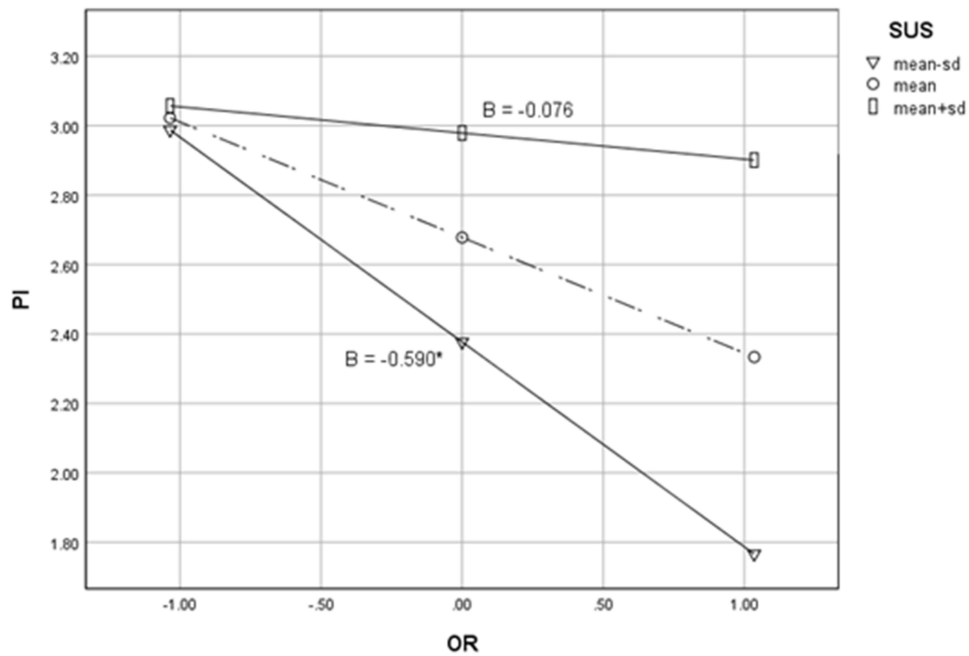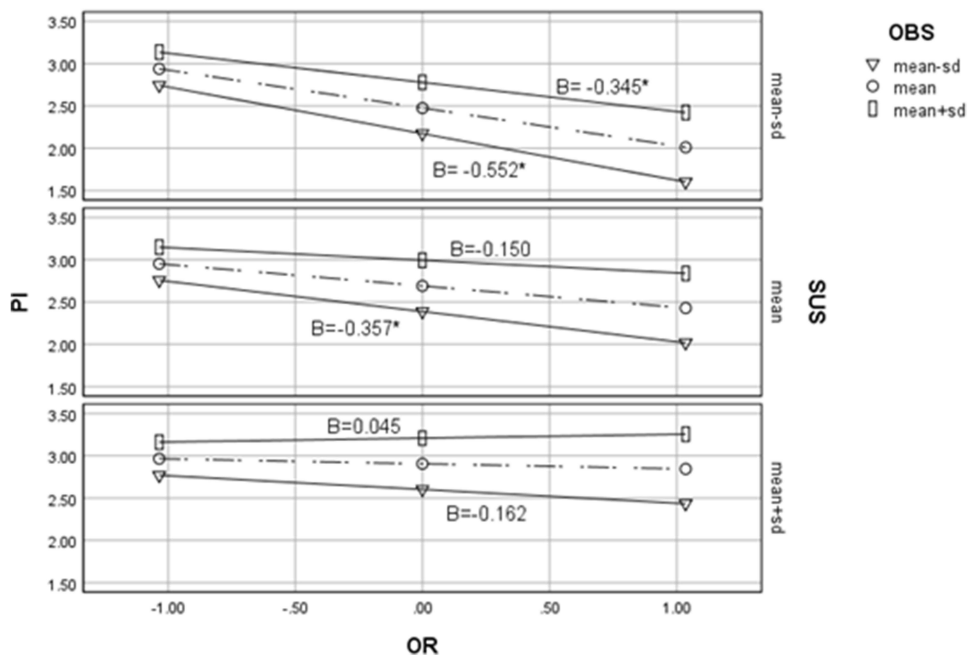
Figure 3 The moderating effect of subjective support between occupational risks and occupational identity.

relieve occupational risks while simultaneously negatively influencing professional identity and the use of the collocation method for the simple slope test [36], the results (Table 9) indicate that a simple slope in objective support and subjective support significantly doubled low levels (OBS = mean - sd, SUS = mean - sd, B = 0.552, P < 0.05), while in objective support and subjective support, combination levels were not significant (OBS = mean + sd, SUS = mean + SD, B = 0.045, P > 0.05). To better understand the joint moderating effect of objective support and subjective support on occupational risks and occupational identity, SPSS 19.0 was used to generate Figure 4. The regression fitting curve

Figure 4 Simultaneous moderating effects of objective support and subjective support between occupational risk and occupational identity.

between occupational risks and occupational identity is steeper under both objective and subjective support (OBS=mean +sd, SUS=mean+sd) than under both objective and subjective support (OBS=mean-sd, SUS=mean-sd).

(2) The moderating effect of occupational risks on occupational mobility intention

According to Model M3, the regression coefficient of the interaction between occupational risk and objective support (OR×OBS) was not significant (M3, B=−0.038, P > 0.05); that is, in the case of the COVID-19 pandemic, the objective support experienced by medical professionals could not mitigate the direct, positive impact of occupational risk on occupational mobility intention, so H6a was not established. According to Model M4, the regression coefficient of the interaction item between occupational risk and subjective support (OR×SUS) was not significant (M4, B=−0.046, P > 0.05); that is, in the case of the COVID-19 pandemic, the subjective support obtained by medical professionals could not mitigate the direct positive impact of occupational risk on occupational mobility intention, so H6b was not valid.

Compared with Models M3 and M4, two moderators, objective support and subjective support, were included in M5. The regression coefficient of the occupational risk and objective support interaction item (OR×OBS) was not significant (M5, B=−0.022, P > 0.05), and the regression coefficient of the occupational risk and subjective support interaction item (OR×SUS) was significant (M5, B=−0.031, P > 0.05). Therefore, in the case of the COVID-19 pandemic, the objective support and subjective support experienced by medical professionals did not jointly mitigate the direct, positive impact of occupational risk on occupational mobility intention, and H7 was not valid.

Testing the Mediating Effects with Regulation

To test the mediating effects of objective support and subjective support on the mediating effects (h8a, h8b) and joint mediating effects (H9) of occupational identity on the relationship between occupational risk and occupational mobility intention, this study used an SPSS 19.0-based process (3.3 macro) to conduct a bootstrap test on the mediating effect and moderating mediating effect index[42] of professional identity under different levels of objective and subjective support (mean SD, mean, mean + SD). The results of the bootstrap test with a moderated mediating effect (Table 10) revealed the following:

(1) The mediating effect of professional identity was significant at the low level of objective support (OBS = mean SD, B = 0.144, 95% CI = [0.080, 0.221]), but not at the high level of objective support (OBS = mean + SD, B = 0.045, 95% CI = [- 0.019, 0.124]), and the former was significantly stronger than the latter ($B_{mean+sd}$-$B_{mean-sd}$ = - 0.099, 95% CI = [- 0.197, - 0.025]). In addition, the mediating effect index of objective support was significant (IMM = −0.050, 95% CI = [−0.099, - 0.013]). Therefore, in the case of the COVID-19 pandemic, the objective support of medical professionals can alleviate the intermediary role of professional identity between occupational risk and the willingness to change jobs. Hence, H6a was established.

(2) The mediating effect of professional identity was significant at the low level of subjective support (SUS = mean SD, B = 0.208, 95% CI = [0.123, 0.301]), but not significant at the high level of subjective support (SUS = mean + SD, B = 0.027, 95% CI = [- 0.029, 0.091]), and the former was significantly stronger than the latter ($B_{mean+sd}$-$B_{mean-sd}$ = - 0.181, 95% CI = [- 0.276, - 0.098]). In addition, the mediating effect index of subjective support was significant (IMM = −0.089, 95% CI = [−0.135, - 0.048]). Thus, in the case of the COVID-19 pandemic, the subjective support of medical professionals can alleviate the intermediary role of professional identity between occupational risk and willingness of occupational mobility, and h6b was established.

(3) The mediating effect of professional identity was significant at the low level of objective support and subjective support (OBS = mean - SD, SUS = mean - SD, B = 0.147, 95% CI = [0.071, 0.231]) but not at the high level of objective support and subjective support (OBS = mean + SD, SUS = mean + SD, B = −0.012, 95% CI = [−0.063, 0.043]), and the former was significantly stronger than the latter ($B_{mean+sd}$-$B_{mean-sd}$ = −0.159, 95% CI = [−0.262), −0.069]). In addition, the mediating effect of objective support was not significant (IMM_{OBS} = −0.028, 95% CI = [−0.069, 0.006]), the mediating effect index of subjective support was significant (IMM_{SUS} = −0.051, 95% CI = [−0.087, - 0.018]), and the mediating effect of objective support was absorbed. Thus, in the case of the COVID-19 pandemic, the objective and subjective support experienced by medical professionals can jointly alleviate the intermediary role of occupational identity between occupational risk and occupational mobility intention, and the latter has a stronger mitigation role; thus, H9 is supported.

Table 10 Bootstrap Test with Moderated Mediating Effect (Repeated 5000 Times)

Moderator Variable	Values		B	BootSE	95% CI	
					BootLLCI	BootULCI
OBS	Mean-sd		0.144	0.036	0.080	0.221
	Mean		0.094	0.029	0.044	0.159
	Mean+sd		0.045	0.036	−0.019	0.124
	Bmean-Bmean-sd		−0.050	0.022	−0.098	−0.012
	Bmean+sd-Bmean-sd		−0.099	0.043	−0.197	−0.025
	Bmean+sd-Bmean		−0.050	0.022	−0.098	−0.012
	IMM		−0.050	0.022	−0.099	−0.013
SUS	Mean-sd		0.208	0.045	0.123	0.301
	Mean		0.117	0.031	0.061	0.184
	Mean+sd		0.027	0.031	−0.029	0.091
	Bmean-Bmean-sd		−0.091	0.023	−0.138	−0.049
	Bmean+sd-Bmean-sd		−0.181	0.045	−0.276	−0.098
	Bmean+sd-Bmean		−0.091	0.023	−0.138	−0.049
	IMM		−0.089	0.022	−0.135	−0.048
OBS+SUS	OBS	SUS				
	Mean-sd	Mean-sd	0.147	0.041	0.071	0.231
	Mean-sd	Mean	0.095	0.032	0.041	0.163
	Mean-sd	Mean+sd	0.043	0.031	−0.012	0.111
	Mean	Mean-sd	0.119	0.036	0.052	0.192
	Mean	Mean	0.067	0.024	0.027	0.120
	Mean	Mean+sd	0.016	0.022	−0.023	0.063
	Mean+sd	Mean-sd	0.092	0.040	0.020	0.176
	Mean+sd	Mean	0.040	0.029	−0.011	0.103
	Mean+sd	Mean+sd	−0.012	0.026	−0.063	0.043
	IMMOBS		−0.028	0.019	−0.069	0.006
		IMMSUS	−0.051	0.018	−0.087	−0.018
	Bmean-Bmean-sd		−0.079	0.025	−0.131	−0.034
	Bmean+sd-Bmean-sd		−0.159	0.049	−0.262	−0.069
	Bmean+sd-Bmean		−0.079	0.025	−0.131	−0.034

Note: "+" indicates the common regulation effect.
Abbreviations: OBS, objective support; SUS, subjective support; IMM, mediating effect index with regulation.

Discussion and Future Work

Discussion

Based on the theory of resource preservation and the theory of career search, this study is based on the period of the COVID-19 pandemic. This paper constructed a conceptual model of the relationship among professional risk,

professional identity, social support, and the professional mobility willingness of medical professionals, thereby verifying the mechanism of the role of professional risk in their professional mobility willingness through empirical methods, and further explored the important intermediary role of professional identity and the important regulation of the two dimensions of social support (objective and subjective support). A questionnaire survey was conducted among Chinese medical personnel, and regression analysis and hypothesis testing were performed using the SPSS 19.0-based process 3.3 macro. The results showed the following:

(1) The professional risks faced by medical professionals can enhance their professional mobility willingness and weaken their professional identity. They cannot only directly enhance their professional mobility willingness, but also indirectly strengthen their professional mobility willingness through professional identity. In addition, the intermediary effect of professional identity accounted for 38.81% of the total effect; hence the direct effect of the professional risk faced by medical professionals on their willingness to move.

(2) The objective and subjective support experienced by medical professionals cannot only alleviate the negative impact of occupational risk on professional identity alone but also jointly, and in the process of their joint mitigation, the former has been internalized and absorbed, while the latter has a stronger mitigation effect.

(3) The objective support and subjective support obtained by medical professionals can neither alone nor jointly alleviate the direct, positive impact of occupational risk on the willingness of occupational mobility.

(4) The objective and subjective support experienced by medical professionals cannot only alleviate the intermediary role of professional identity in career risk and the willingness of career mobility, but also in the process of their joint mitigation role; the former's mitigation role is internalized and absorbed, and the latter's mitigation role is stronger.

Conclusion

Based on interactive social support theory and resource conservation theory, this study established a direct effect model and a buffer effect model of social support, constructed a moderated mediation model of the relationship between social support, career mobility intention, career risk and career identity of health care workers during the new coronavirus pneumonia epidemic, and verified the mechanism of social support on the career mobility intention of medical staff during the COVID-19 pandemic through empirical methods. This study expanded the application areas of social support theory and resource conservation theory. With the help of mutual social support theory, it explored the mutual construction process of the joint efforts of supporters and the supported, and established a pioneering direct effect model and a buffer effect model of social support, thus bridging the gap between the traditional separation of the two research states. The study of the relationship between social support and career mobility intentions of health care workers is enriched, providing a new perspective for future research on the relationship between the two.

Future Work

In this study, only from the perspective of the period of the COVID-19 pandemic was the mechanism of the effect of medical professional occupational risk on the willingness of professional mobility investigated. There were many factors affecting the willingness of medical professional occupational mobility, such as job burnout, job satisfaction, and entrepreneurial tendency. Therefore, future research can integrate variables such as job burnout, job satisfaction, and entrepreneurial tendency to build a research model to investigate the mechanism of their effects on the willingness of medical professional career mobility. This study only discussed the regulatory role of social support, but it can also be used as an antecedent variable to affect career identity, so future research can further deepen and expand on this. In addition, there are also some study limitations in this study, as the data investigations were conducted during the development of the new crown epidemic, and it is difficult to determine whether the results of our study would have been the same in the absence of the new crown epidemic.

Ethical Approval and Consent to Participate

Information about the purpose of the study, the nature of voluntary participation, and risks associated with participation are presented in the information section of the survey. This study was approved by the ethics committee of Hunan Normal University. Informed consent was obtained from all participants. Throughout the study, information was kept confidential, and anonymous data were recorded. This study was carried out according to the Declaration of Helsinki.

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Disclosure

The authors report no conflicts of interest in this work.

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