The Relationship between Occupational Stress and Mental Health of Rural Teachers: the Role of Psychological Resilience and Social Support

Dongling Zhang

Qilu Normal University, Jinan, 250200, China

zhangdongling6506@gmail.com

Abstract: This study utilized 154 Chinese rural teachers as research subjects and employed the occupational stress scale, mental health questionnaire, resilience questionnaire, and social support scale to investigate the relationships among occupational stress, mental health, resilience, and social support among rural primary and secondary school teachers. The results indicated that occupational stress significantly positively predicted mental health, resilience played a mediating role, and social support did not moderate the relationship between occupational stress, mental health, and resilience among rural primary and secondary school teachers. The findings underscored the importance of reducing occupational stress and enhancing resilience.

1 Introduction

Teachers' mental health is not only related to their own well-being, but also directly affects the quality of teaching and the growth of students. Teachers with good mental health can devote themselves to teaching with more enthusiasm and a positive attitude, thus promoting the all-round development of students (Glazzard, & Rose, 2020). On the contrary, teachers who are under high pressure for a long time may pass their mental health problems to students through their words and deeds, which will have a negative impact on students' learning and growth.

In the face of occupational stress, individuals are not completely passive. Their level of psychological resilience and social support network largely determine their ability to cope with stress and their mental health. Psychological resilience refers to the ability of an individual to adapt and recover in adversity, which enables individuals to maintain a relatively stable mentality and behavioral performance in the face of stress (Troy, Willroth, Shallcross, et al., 2023). Among rural teachers, those with strong psychological resilience are often able to better cope with occupational

stress and maintain mental health. Social support refers to the spiritual or material help and support that an individual obtains from the social network, which can effectively alleviate the negative impact of stress (Mishra, 2020). Support from family, colleagues, school, as well as society, is also an important resource for them to relieve stress and maintain mental health. However, there is currently a lack of in-depth research on the specific role of psychological resilience and social support in the relationship between occupational stress and mental health of rural teachers.

This study aims to explore the relationship between occupational stress and mental health of rural teachers and reveal the role of psychological resilience and social support in this relationship. Through empirical research, this study hopes to provide new perspectives and strategies for the prevention and intervention of mental health problems of rural teachers, promote the stability and development of the rural teacher team, and improve the quality of rural basic education.

2 Methods

2.1 Participants

This study, conducted on the online survey platform "Questionnaire Star," implemented a questionnaire survey targeting rural primary and middle school teachers. Utilizing a convenience sampling method, the survey was carried out anonymously, with teachers from four primary and middle schools in a city in Shandong Province selected as the sample subjects. Based on fully informing the participants of the survey's purpose and obtaining their informed consent, the teachers voluntarily participated in this study. A total of 172 questionnaires were collected, and after screening, 154 were determined to be valid, yielding an effective response rate of 89.53%. Among the participants, there were 70 male teachers (45.5%) and 84 female teachers (54.5%). There were 101 primary school teachers (65.6%) and 53 middle school teachers (34.4%). Additionally, 66 were head teachers (42.9%) and 88 were non-head teachers (57.1%). There were 21 senior teachers (13.6%), 84 first-grade teachers (54.5%), and 49 second-grade or lower teachers (31.8%).

2.2 Measures

2.2.1 Mental Health Scale

The General Mental Health Scale compiled by D. Goldberg (Li, Gao, Shen, 2007) was used. It consists of 12 items, with half being positive and half negative. A Likert-type 4-point scale was used, ranging from "never" (1 point) to "often" (4 points). The score range is 12-48, with higher scores indicating lower levels of mental health. The internal consistency coefficient of the scale in this study was 0.87.

2.2.2 Occupational Stress Questionnaire

The Teacher Occupational Stress Questionnaire compiled Zhu et al. (Zhu, Shen, Liu, 2002) was used. It contains 46 items, covering six dimensions: exam pressure, student factors, self-development, family and interpersonal relationships, workload, and career expectations. A Likert-type 5-point scale was used, ranging from "no pressure" (1 point) to "extreme pressure" (5 points). Higher total scores indicate higher occupational stress. The internal consistency coefficient of the scale in this study was 0.97.

2.2.3 Psychological Resilience Questionnaire

The revised 25-item version of the Connor-Davidson Resilience Scale (CD-RISC) by Xiao was used. The Cronbach's alpha for this measurement of psychological resilience sources was 0.92.

2.2.4 Social Support Scale

The Perceived Social Support Scale compiled by Zimet et al. and translated and revised by Jiang (2001) was used. It consists of 12 items, divided into three subscales: family support, friend support, and other support (family, relatives, colleagues). A Likert-type 7-point scale was used, ranging from "disagree" (1 point) to "strongly agree" (7 points). Higher scores indicate better social support. The internal consistency coefficient of the scale in this study was 0.96.

2.3 Data analysis

This study used SPSS27.0 software for data analysis, mainly using the following methods: descriptive analysis, internal consistency coefficient analysis, normal distribution test, correlation analysis and regression analysis. Specifically, descriptive statistics were first processed on quantitative data such as frequencies and percentages, means and standard deviations. Then, based on the results of the normal distribution test, decide whether to perform significant differences between variables grouped by characteristics using independent samples t-test and one-way analysis of variance (ANOVA) or Mann-Whitney U test and Kruskal-Wallis H test Statistical analysis. Pearson product-difference correlation analysis was used to examine whether there is a relationship between occupational stress, psychological resilience, social support, and mental health. Finally, a moderated mediation model was established using the PROCESS4.1 plug-in to test the mediating role of psychological resilience and the moderating role of social support.

3 Results and Discussion

3.1 Correlation analysis

The means, standard deviations and correlations between variables are listed in Table 1. The correlation analysis results indicate that occupational stress among rural primary and secondary school teachers is significantly positively correlated with mental health ($r=0.43$, $p<0.01$), and significantly negatively correlated with resilience ($r=-0.18$, $p<0.05$) and social support ($r=-0.29$, $p<0.01$). Mental health is significantly negatively correlated with resilience ($r=-0.51$, $p<0.01$) and social support ($r=-0.46$, $p<0.01$). Resilience is significantly positively correlated with social support ($r=0.69$, $p<0.01$).

Table 1. Correlation Analysis

Variables	$\bar{x}\pm s$(分)	1	2	3	4
1Mental Health	2.05±0.48	1			
2Occupational Stress	2.67±0.78	0.43**	1		
3Social Support	5.18±1.18	-0.46**	-0.29**	1	
4Psychological Resilience	3.75±0.77	-0.51**	-0.18*	0.69**	1

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

3.2 Mediating Role of Resilience between Occupational Stress and Mental Health

Model 4 in the Process4.1 program was used for path analysis. The analysis results are shown in Table 2. The results showed that occupational stress had a predictive effect on mental health (β=0.27, t=5.92, p<0.001); occupational stress also had a predictive effect on psychological resilience (β=-0.18, t=-2.31, p<0.001); additionally, occupational stress (β=0.22, t=3.14, p<0.001) and psychological resilience (β=-0.28, t=-7.72, p<0.001) both had predictive effects on mental health. Furthermore, the Bootstrap test results indicated that psychological resilience had a significant mediating effect between occupational stress and mental health, with ab=0.05, *Boot SE*=0.05, and a 95% confidence interval of [0.005, 0.103]. The proportion of the mediating effect to the total effect was ab/c=18.51%. This suggests that psychological resilience plays a partial mediating role in the relationship between occupational stress and mental health, meaning that occupational stress among rural teachers can have a direct impact on mental health, and can also indirectly impact mental health through the mediating role of psychological resilience.

Table 2. Regression Analysis of the Mediating Role Model of Psychological Resilience

Predictor Variables	Model1		Model2		Model3	
	β	t	β	t	β	t
Occupational Stress	0.27	5.92[***]	-0.18	-2.31[***]	0.22	5.38[***]
Psychological Resilience					-0.28	-6.77[***]
R^2	0.19		0.03		0.38	
F	35.05[***]		5.31[*]		45.64[***]	
Note: Model 1 represents occupational stress predicting mental health; Model 2 represents occupational stress predicting resilience; Model 3 represents both occupational stress and resilience predicting mental health.						

3.3 Testing the moderating effect of social support

Further analysis of the moderated mediation model was conducted using Model 59 in the Process4.1 program. With gender, age, teaching level, whether serving as a class teacher, and professional title as control variables, the results show that after including social support in the model, the interaction term between occupational stress and social support does not significantly predict resilience (β=-0.05, t=-1.06, p>0.05), indicating that social support does not moderate the relationship between occupational stress and coping strategies. Meanwhile, the interaction term does not significantly predict mental health (β=0.05, t=1.83, p>0.05); additionally, the interaction term between resilience and social support does not significantly predict mental health (β=-0.005, t=-0.17, p>0.05). This suggests that social support does not moderate the mediation model.

4 Discussion

The mental health status of rural teachers is directly related to teaching quality and student growth. However, due to multiple factors such as work environment, resource constraints, and social responsibilities, rural teachers often face significant occupational stress (Agyapong, Obuobi-Donkor, Burback, & Wei, 2022). This study shows that there is a significant positive correlation between occupational stress and the mental health of rural teachers. This means that as occupational stress increases, the mental health status of rural teachers tends to worsen. This finding is consistent with previous research results, further validating the negative impact of occupational stress on the mental health of rural teachers (Wu, 2020)

The mediation model analysis indicates that resilience partially mediates the relationship between occupational stress and mental health. That is, occupational stress can not only directly affect teachers' mental health but can also indirectly affect it by weakening their resilience. This result is consistent with previous research (Chitra & Karunanidhi, 2021). Resilience generally refers to an individual's ability to adapt and recover when facing adversity, stress, or challenges. High levels of resilience can help individuals better cope with adverse events in life, thereby maintaining a positive attitude and better dealing with stressful events (Fullerton, Zhang, & Kleitman, et al., 2021). However, resilience is not just a fixed trait but a dynamic process that involves an individual's ability to adapt and recover under stress or challenges (Kuldas & Foody, 2022). Resilience may be affected by the accumulation of external stress (Kalisch, Köber, Binder, et al., 2021), meaning that when individuals face high occupational stress, their resilience may be impaired, leading to a decrease in their ability to cope with stress. Empirical studies have confirmed that resilience is considered an important mediating variable, as it can mediate between various stressors (such as life events, work stress, etc.) and mental health outcomes (such as anxiety, depression, etc.) (Serrão, Duarte, Castro, & Teixeira, 2021). In other words, when occupational stress accumulates to a certain extent, it may increase the risk of individuals developing mental health issues such as anxiety and depression by weakening their resilience. Therefore, resilience not only directly affects an individual's mental health but also plays a bridging role between occupational stress and mental health.

Overall, psychological resilience plays a crucial role in helping individuals cope with occupational stress and maintain their mental health. Improving individuals' level of psychological flexibility may be an effective way to assist them in better coping with occupational stress and preserving their mental well-being. In educational and work environments, attention should be paid to cultivating psychological flexibility and providing necessary psychological support and training to enhance individuals' ability to cope with stress and promote their physical and mental health.

This study found that the moderating effect of social support in the workplace is not significant, failing to verify our hypothesis, which is inconsistent with previous research results (Rubio et al., 2020). After an in-depth analysis, we believe there are three main reasons for this result. First, many studies have vague and unclear definitions of social support, leading to conceptual confusion and obstacles to understanding. This conceptual ambiguity makes it difficult for us to accurately grasp the nature and essence of social support, thereby affecting our understanding and research of its moderating role. Second, researchers have adopted a variety of different conceptual frameworks when exploring the mechanism of social support in the workplace. This lack of a unified theoretical framework makes it difficult to integrate and compare research results, and also increases the uncertainty and complexity of the research. Third, there is currently a lack of universally recognized measures for assessing social support. Due to the absence of unified measurement standards, researchers have used different methods and indicators when evaluating social support, making the

comparison and verification of research results complicated and unreliable. This situation further exacerbates the inconsistency and variability in research findings regarding the moderating role of social support. In summary, research results on the moderating role of social support in the workplace exhibit significant differences and uncertainties. To gain a deeper understanding and explore the reasons behind this inconsistency in results, future research needs to pay more attention to the clarity of the definition of social support, the establishment of a unified theoretical framework, and the development and refinement of measurement standards. At the same time, more rigorous and scientific research methods are also required to advance and develop research in this field.

5 suggestions

This study provides a theoretical basis and practical guidance for promoting the mental health of rural teachers. Necessary psychological education should be provided to rural primary and secondary school teachers to enhance their positive coping strategies and encourage/help them to make full use of the social support system to enhance their adaptability, so as to cope with occupational stress and maintain good mental health, thereby contributing to the realization of educational modernization.

This study also has certain shortcomings. First, the study is limited in terms of sample representativeness. The sample of this study is limited to rural teachers in a certain area of Shandong Province, therefore may not fully represent the situation of all rural teachers. Secondly, although this study considered the role of psychological resilience and social support, it may have ignored specific aspects of psychological resilience and the specific forms of social support. These factors may also have an impact on rural teachers' occupational stress and mental health. Future research can expand the sample scope and further explore the impact of specific forms of psychological resilience and social support to more deeply reveal the relationship between rural teachers' occupational stress and mental health, and provide a scientific basis for developing more effective intervention measures.

Funding

References

[1] Agyapong, B., Obuobi-Donkor, G., Burback, L., & Wei, Y. (2022). Stress, burnout, anxiety and depression among teachers: A scoping review. International Journal of Environmental Research and Public Health, 19(17), 10706. https://doi.org/10.3390/ijerph191710706

[2] Carroll, A., Forrest, K., Sanders-O'Connor, E., Flynn, L., Bower, J. M., Fynes-Clinton, S., ... & Ziaei, M. (2022). Teacher stress and burnout in Australia: Examining the role of intrapersonal and environmental factors. Social Psychology of Education, 25(2), 441-469. https://doi.org/10.1007/s11218-022-09686-7

[3] Chitra, T., & Karunanidhi, S. (2021). The impact of resilience training on occupational stress, resilience, job satisfaction, and psychological well-being of female police officers. Journal of Police and Criminal Psychology, 36(1), 8-23. https://doi.org/10.1007/s11896-018-9294-9

[4] Fullerton, D. J., Zhang, L. M., & Kleitman, S. (2021). An integrative process model of resilience in an academic context: Resilience resources, coping strategies, and positive adaptation. PloS One, 16(2), e0246000. https://doi.org/10.1371/journal.pone.0246000

[5] Glazzard, J., & Rose, A. (2020). The impact of teacher well-being and mental health on pupil progress in primary schools. Journal of Public Mental Health, 19(4), 349-357. https://doi.org/10.1108/JPMH-02-2019-0023

[6] Jiang, Q. J. (2001). Perceived Social Support Scale. Chinese Journal of Behavioral Medical Science, 10(10), 41–43.

[7] Kalisch, R., Köber, G., Binder, H., Ahrens, K. F., Basten, U., Chmitorz, A., ... & Engen, H. (2021). The frequent stressor and mental health monitoring-paradigm: A proposal for the operationalization and measurement of resilience and the identification of resilience processes in longitudinal observational studies. Frontiers in Psychology, 12, 710493. https://doi.org/10.3389/fpsyg.2021.710493

[8] Kuldas, S., & Foody, M. (2022). Neither resiliency-trait nor resilience-state: Transactional Resiliency/e. Youth & Society, 54(8), 1352-1376. https://doi.org/10.1177/0044118X211029309

[9] Li, Y. X., Gao, D. D., & Shen, J. L. (2007). The relationship between teacher burnout, self-esteem, mental health, and turnover intention. Psychological Development and Education, 4, 83–87.

[10] Mishra, S. (2020). Social networks, social capital, social support and academic success in higher education: A systematic review with a special focus on 'underrepresented' students. Educational Research Review, 29, 100307. https://doi.org/10.1016/j.edurev.2019.100307

[11] Rubio, A., Oyanedel, J. C., Cancino, F., Benavente, L., Céspedes, C., Zisis, C., & Páez, D. (2020). Social support and substance use as moderators of the relationship between depressive symptoms and suicidal ideation in adolescents. Frontiers in Psychology, 11, 539165. https://doi.org/10.3389/fpsyg.2020.539165

[12] Serrão, C., Duarte, I., Castro, L., & Teixeira, A. (2021). Burnout and depression in portuguese healthcare workers during the covid-19 pandemic—The mediating role of psychological resilience. International Journal of Environmental Research and Public Health, 18(2), 636. https://doi.org/10.3390/ijerph18020636

[13] Troy, A. S., Willroth, E. C., Shallcross, A. J., Giuliani, N. R., Gross, J. J., & Mauss, I. B. (2023). Psychological resilience: An affect-regulation framework. Annual Review of Psychology, 74(1), 547-576. https://doi.org/10.1146/annurev-psych-020122-041854

[14] Wu, D. (2020). Relationship between job burnout and mental health of teachers under work stress. Revista Argentina de Clínica Psicológica, 29(1), 310. DOI:10.24205/03276716.2020.41

[15] Zhu, C. S., Shen, J. L., & Liu, J. X. (2002). A study on sources of occupational stress among primary and secondary school teachers. Modern Primary and Secondary Education, 3, 50–54.