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The role of job resources and psychological empowerment in enhancing innovative work behavior in Chinese higher education

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ABSTRACT

This research examined the relationship between job resources (social support, job autonomy, and colleague feedback) and innovative work behaviors of university teachers based on social exchange theory. The mediating role of psychological empowerment (meaning, competence, self-determination, impact) was also examined in the relationship between job resources and innovative work behaviors. Based on the established measurement scales, the questionnaire was used to collect data through quota sampling and purposive sampling methods. Empirical investigation was conducted with confirmatory factor analysis and structural equation modeling analysis. The results reveal that job resources were significantly and positively correlated with innovative work behaviors, and psychological empowerment mediated the relationship between job resources and innovative work behaviors.

Keywords: Technological blockade, higher education, innovative work behavior, job resources, psychological empowerment.

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INTRODUCTION

The technology blockade imposed by developed countries on China has been a prominent issue in the current international economic and political climate. This technology blockade has resulted in the inability of countries or enterprises to acquire, develop or utilize key technologies and products, which has largely limited the potential for economic growth (Dunford and Liu, 2023). It has been pointed out in previous studies that university teachers are an essential group who drive the development of science, technology and innovation in China (ChengJie and Nayak, 2023). This is due to research projects and experiments of university teachers usually involving the development of new technologies, products, and ideas (Guan and Zhang, 2011), which will help the country to maintain its competitiveness in key technological areas, thereby mitigating the risk of technology blockades.

Currently, the primary factor influencing the research and innovation work behavior of Chinese university teachers is job resources (Messmann et al., 2017; Phuong et al., 2021). Job resources are the factors, conditions and supports in the work environment that employees can utilize to improve their job performance, meet their occupational needs, enhance job satisfaction, and promote well-being at work (Tims et al., 2013). Specifically, first, teachers can only be willing to try new directions in research if they are provided with the necessary emotional and professional support (Fiorilli et al., 2017). Secondly, innovative work behaviors can only be facilitated by ensuring that teachers can choose their research topics, methods and strategies in the research process (Voino-Yasenetsky, 2018). Finally, timely feedback can help faculties assess their research, identify problems and make timely adjustments in direction to improve the

effectiveness and quality of research and innovation (Eva et al., 2019). In summary, the supply of adequate job resources can facilitate teachers' innovative work behaviors in research. Bakker et al. (2005) categorized job resources into three dimensions, mainly social support, autonomy, and feedback. Although the relationships between social support (Karimi et al., 2023), autonomy (Dara and Hamidah, 2022), feedback (Bak, 2020) and teacher innovative work behavior have been studied, the relationship between feedback and innovative work behaviors have only been studied in the relationship between leadership feedback and innovative work behaviors, whereas colleague feedback and innovative work behaviors have not been empirically examined (Eva et al., 2019). Consequently, there is a research gap in the empirical study of colleague feedback and teachers' innovative behavior.

In addition, Wood and Bandura (1989) states through social cognitive theory that an individual's perception of their environment affects their psychological state, which in turn affects their behavior. Job resources as an environmental factor hindering teachers' innovative work behaviors (Messmann et al., 2017) may result in teachers feeling a lower sense of meaning, job autonomy and job value. This sense of meaning, autonomy and value of the job is psychological empowerment. Psychological empowerment is an intrinsically self-motivating process, an experience of being empowered that teachers can perceive in their work situations (Thomas and Velthouse, 1990). Thus, psychological empowerment as an individual's psychological state is also a necessary factor influencing innovative work behaviors (Singh and Sarkar, 2012, 2019; Zhu et al., 2019). Spreitzer (1995) categorized psychological empowerment into four dimensions: meaning, competence, self-determination, and impact. Although there have been studies proving that psychological empowerment has a positive impact on teacher innovative work behavior, there are no empirical studies that have used psychological empowerment as a mediating variable in the relationship between job resources and teacher innovative work behavior. Therefore, there is a research gap in empirical studies of psychological empowerment as a mediating variable between job resources and teacher innovative work behavior.

To summarize, this research has two objectives. Firstly, to examine the effects of job resources on innovative work behavior. To investigate how various job resources such as social support, job autonomy, and colleague feedback contribute to the university teacher's innovative work behavior. Secondly, to explore the mediating role of psychological empowerment such as meaning, competence, self-determination, and impact between job resources and innovative work behavior. Finally, based on the results of this research, recommendations will be presented to offer reference suggestions for promoting the innovative work behavior of university teachers. Additionally, the research limitations and future directions will be summarized, providing a solid foundation for related research in the future.

LITERATURE REVIEW

Social exchange theory

This research applies Social Exchange Theory to explain the effect of psychological empowerment on the relationship between job resources and university teachers' innovative work behavior. Social exchange theory states that individuals weigh the costs and rewards of participating in social interactions, and based on this weighing of costs and rewards, individuals make decisions and act accordingly, choosing to participate in the interaction or to avoid it, thereby generating behavior (Cropanzano et al., 2017). In the context of the university, teachers perceive rewards in the form of work resources provided by the university, such as social support, autonomy, and feedback (Kennedy, 2005), and when teachers perceive that these work resources produce beneficial outcomes for them, they develop a sense of confidence or motivation, which is known as psychological empowerment. This motivates them to be more inclined to invest their costs, such as time or effort, in their work and generate returns, and use their abilities to try to adopt cutting-edge technologies to carry out innovative research projects, thus generating innovative behavior (Bogler and Nir, 2012). Subsequently, psychological empowerment is a mediating variable in the exchange relationship between job resources and teachers' innovative work behaviors. Based on this, according to the social exchange theory, the researcher believes that psychological empowerment may affect the relationship between job resources and innovative work behaviors of university teachers and hypothesizes that job resources have a positive impact on research and innovation behaviors of university teachers by increasing psychological empowerment.

Hypotheses development

Job resources have a positive impact on innovative work behavior (Dediu et al., 2018). Specifically, first, social support includes support and cooperation from colleagues, research teams, superiors, school management and partners. This support can motivate university teachers to actively engage in research work (Rosenfeld et al., 2000). Secondly, autonomy means that teachers have the freedom and control over their work. Autonomy implies control and thus freedom to implement one's ideas (Mausethagen and Mølstad, 2015). Finally, feedback is the process of obtaining information about an individual's performance on the job, which can be either positive or negative feedback (Whitaker and Levy, 2012). Timely and

specific feedback is critical to innovative work behaviors of university teachers (Eva et al., 2019). Dediu et al. (2018) investigated the relationship between job resources (autonomy, social support) and innovative work behavior, autonomy was found to have the highest association with innovative idea generation and idea implementation. Social support as another job resource was positively associated with innovative work behavior. In summary, based on the above research, the following hypotheses are proposed:

H1a: Autonomy positively influences teachers' innovative work behavior in Chinese higher education.
H1b: Social support positively influences teachers' innovative work behavior in Chinese higher education.
H1c: Colleague feedback positively influences teachers' innovative work behavior in Chinese higher education.

Currently, there is research that points to the positive impact of job resources on psychological empowerment (Yang, 2017). First of all, teachers need adequate resources for their work, such as technical equipment and emotional support, which help to enhance their self-confidence and sense of meaning in the field of research (Turner et al., 2022). Secondly, specialized training and development opportunities can help teachers continuously upgrade their professional skills and knowledge, thereby enhancing their competence and competitiveness in the areas of teaching and research (Greenglass et al., 2020). Thirdly, teachers are given full self-determination so that they can formulate research plans more autonomously, give full play to their creativity and imagination, and stimulate their research and innovation efforts (Ferguson et al., 2017). Finally, adequate research resources and support can help teachers gain more recognition and prestige in the academic community, expand their influence in the academic field, and thus make greater contributions to research and innovation (Tezci et al., 2015). In summary, the adequate provision of job resources is a key factor in enhancing the psychological empowerment of university teachers. Jose and Mampilly (2015) state that one dimension of social support, supervisor support, has a positive impact on psychological empowerment. Malik et al. (2021) state that autonomy contributes to employee psychological empowerment. Arciniega and Menon (2013) questionnaire survey of 313 factory employees stated that feedback will enhance psychological empowerment. In summary, based on the above research, the following hypotheses are proposed for this research:

H2a: Social support positively influences meaning.
H2b: Social support positively influences competence.
H2c: Social support positively influences self-determination.
H2d: Social support positively influences impact.
H3a: Autonomy positively influences meaning.
H3b: Autonomy positively influences competence.
H3c: Autonomy positively influences self-determination.
H3d: Autonomy positively influences impact.
H4a: Colleague feedback positively influences meaning.
H4b: Colleague feedback positively influences competence.
H4c: Colleague feedback positively influences self-determination.
H4d: Colleague feedback positively influences impact.

Psychological empowerment consists of four dimensions: meaning, competence, self-determination, and impact. These dimensions can positively influence innovative work behaviors (Helmy et al., 2019; Stanescu et al., 2021). Specifically: Firstly, a sense of empowerment makes teachers more motivated to engage in research and innovation activities, therefore resulting in innovative behavior. Because they believe that their work is important to the academic community and society (Singh and Sarkar, 2012). Secondly, when teachers feel that they have sufficient expertise and skills in the field of research, they are more likely to adopt innovative research methods and strategies (Kõiv et al., 2019). Thirdly, Teachers' autonomy in research, where they can choose research directions, methods and schedules, helps to stimulate innovative thinking (Singh and Sarkar, 2019). Finally, when teachers feel that their research efforts can have a positive impact on the discipline, the university, or the academic community, they are more motivated to pursue creative research directions (Li and Wang, 2017). In summary, meaning, competence, self-determination, and impact work hand in hand to constitute teachers' psychological empowerment and inspire their innovative work behavior. Singh and Sarkar (2019) empirically examined the relationship between psychological empowerment and teacher innovative work behavior. Based on these findings, the following hypotheses are proposed for this research:

H5a: Meaning positively influences teachers' innovative work behavior.
H5b: Competence positively influences teachers' innovative work behavior.
H5c: Self-determination positively influences teachers' innovative work behavior.
H5d: Impact positively influences teachers' innovative work behavior.

Social exchange theory states that individuals weigh the costs and rewards of participating in social interactions, and based on this weighing of costs and rewards, individuals make decisions and act accordingly, choosing to participate in the interaction or to avoid it, thereby generating behavior (Cropanzano et al., 2017). In the context of the university, teachers perceive rewards in the form of work resources provided by the university, such as social support, autonomy, and feedback (Kennedy, 2005),

and when teachers perceive that these work resources produce beneficial outcomes for them, they develop a sense of confidence or motivation, which is called psychological empowerment. This makes them more inclined to invest their costs, such as time or effort, in their work and generate returns, such as using their abilities to try to adopt cutting-edge technologies to carry out innovative research projects, thus generating innovative behavior (Bogler and Nir, 2012). Consequently, psychological empowerment is a mediating variable in the exchange relationship between job resources and teachers' innovative work behaviors. Therefore, the following hypotheses can be derived from the above discussion:

H6b: Meaning mediates the relationship between autonomy and teachers' innovative work behavior.
H6c: Meaning mediates the relationship between colleague feedback and teachers' innovative work behavior.
H7a: Competence mediates the relationship between social support and teachers' innovative work behavior.
H7b: Competence mediates the relationship between autonomy and teachers' innovative work behavior.
H7c: Competence mediates the relationship between colleague feedback and teachers' innovative work behavior.
H8a: Self-determination mediates the relationship between social support and teachers' innovative work behavior.
H8b: Self-determination mediates the relationship between autonomy and teachers' innovative work behavior.
H8c: Self-determination mediates the relationship between colleague feedback and teachers' innovative work behavior.
H9a: Impact mediates the relationship between social support and teachers' innovative work behavior.
H9b: Impact mediates the relationship between autonomy and teachers' innovative work behavior.
H9c: Impact mediates the relationship between colleague feedback and teachers' innovative work behavior.

METHODOLOGY

Research design

This research develops a structural equation model of innovative work behavior of university teachers based on social exchange theory to explore the relationship between job resources, psychological empowerment (meaning, competence, self-determination, and impact) and innovative work behavior. Structural Equation Modeling (SEM) is a multivariate modeling analysis method primarily used to analyze linear relationships between latent variables and test their correlations. SEM combines techniques from analysis of variance, factor analysis, path analysis, and correlation analysis, making it widely regarded as a powerful tool for addressing complex multivariate relationships in the realm of social sciences (Stein et al., 2012).

Participants

The questionnaire for this research was completed between February 15 and March 15, 2024. The data was collected from the top ten universities in Beijing, China. According to the 2023 ABC China University Ranking, Tsinghua University, Peking University, Renmin University, University of Chinese Academy of Sciences, Beihang University, Beijing Normal University, Beijing Institute of Technology, China Agricultural University, Peking Union Medical College, Central University of Finance and Economics, and China University of Political Science and Law are ranked as the top ten universities in Beijing. Since the number of teachers in each university is different, this research used the quota sampling method to proportionally quota the teachers from the stated ten universities. According to the proportion of people, 15, 14, 7, 12, 12, 10, 10, 8, 9 and 3% of teachers at the mentioned universities were chosen as participants. A purposive sampling method was used to identify the population (teachers with research work experience from the ten universities mentioned above) suitable for this research. The total number of valid questionnaires was 634 participants from the top ten universities in Beijing, and the effective return rate was 93.20%.

Instruments

Social support was measured with Ho and Chan (2017) Social Support Scale, specifically, this scale consists of 4 dimensions and 16 questions assessing teachers' perceptions of the adequacy of social support provided by their principals, colleagues, family, and friends. Job autonomy was measured through three items adapted from Lambert et al. (2022). Colleague feedback was measured with Scheepers et al. (2018) System for Evaluating Teaching Quality (SETQ), a four-item scale. Psychological empowerment was measured using Spreitzer (1995) measurement scale of four dimensions (meaning, competence, self-determination, and impact), with three questions per dimension, for a total of 12 measurement questions. Teachers' innovative work behavior was measured using the Jobbehdar Nourafkan et al. (2023) IWB scale which consists of 6 items.

Data analysis

This research examined the relationship between the

variables and developed a SEM model. Both SPSS 27.0 and AMOS version 26.0 were used for the statistical analysis of this research. Firstly, to assess the reliability of this research, Cronbach's alpha values and composite reliabilities greater than 0.7 were considered reliable (Hair et al., 2019). Secondly, convergent validity was considered good when the external loadings of the measurement items were greater than 0.6 and the average variance extracted (AVE) for each construct was greater than 0.5 (Hair et al., 2019). Thirdly, to assess discriminant validity, the Fornell Larcker criterion and heterotrait-monotrait (HTMT) values less than 0.85 were used (Hair et al., 2021). Finally, the data was subjected to covariance-based structural equation modeling (SEM), for the CFI, GFI, AGFI, NFI, IFI, greater than 0.9 is acceptable, and RMSEA less than .05 corresponds to a good fit, an RMSEA less than .08 corresponds to an acceptable fit (McDonald and Ho, 2002).

Descriptive statistics

The demographic characteristics of the participants indicate that 344 (54.2%) participants were men, and 290 (45.8%) participants were women. 40 (6.2%) participants were 21 to 30 years old, 202 (32%) participants were 31 to 40 years old, 276 (43.6%) participants were 41 to 50 years old, 116 (18.2%) participants were over 50 years old. Additionally, 77 (12.1%) participants were undergraduate level, 400 (63%) participants were master's degrees, 157 (24.9%) participants were doctoral degrees. 45 (7.1%) participants were lecturers, 215 (34%) participants were assistant professors, 298 (47%) participants were associate professors, and lastly, 76 (11.9%) participants were professors.

By using SPSS software, this research generated coefficients of -.154 to -.405 for skewness and -0.634 to -1.233 for kurtosis. According to Bollen and Long (1993), for univariate normality, when both skewness coefficients and kurtosis have absolute values < 2.0, normality is reached. Therefore, the data did not violate the univariate normality assumption for each observed variable. Additionally, the Kaiser-Meyer-Olkin (KMO) value was found to be 0.906, greater than 0.6. Additionally, Bartlett's test showed a significance level of 0.000, less than 0.01. This indicates that the questionnaire has good validity and is suitable for factor analysis.

Confirmatory factor analysis

In order to test the hypotheses of this research, the researcher conducted a confirmatory factor analysis using AMOS. The reliability and validity of the measurement model were confirmed. Construct reliability (CR) values greater than the reference CR of 0.6 were acceptable (Fornell and Bookstein, 1982). The average variance extracted (AVE) values are greater than the reference AVE of 0.5 (Anderson and Gerbing, 1988), indicating good convergence validity. In terms of indicator consistency reliability, the researcher used Cronbach's alpha and all the variables received Cronbach's alpha coefficients greater than 0.7, thus confirming the internal consistency of the variables in this research (Taber, 2018). The results of the measurements are shown in Table 1.

Table 1. Confirmatory factor analysis.

Constructs / Associated Items	Cronbach's α	CR	AVE
Social support	0.903	0.9711	0.6785
Job autonomy	0.868	0.8731	0.6963
Colleague feedback	0.901	0.9055	0.7055
Meaning	0.881	0.8872	0.7247
Competence	0.882	0.8894	0.7301
Self-determination	0.819	0.8273	0.6150
Impact	0.892	0.8986	0.7480
Innovative work behavior	0.937	0.9381	0.7167

Note: CR = Composite Reliability; AVE = Average Variance Explained.

Pearson correlation analysis and discrimination validity

Based on Pearson correlation, analysis indicates the existence of a significant correlation among the variables. The results of this research demonstrate that the AVE value of the two variables is greater than the criteria for evaluating the validity of the difference (Fornell and Larcker, 1981). As shown in Table 2, any two variables are characterized by good discriminative validity.

Structural equation modeling test

In this research, structural equation modeling (SEM) was applied to evaluate the structural model. The obtained

structural model fit indicates X^2 = 826.558, df = 358, x2/df = 2.309, IFI = 0.959, TLI = 0.953, CFI = 0.959, and RMSEA = 0.045, which indicates that the model of the present research is well fitted (Figure 1).

Table 2. Correlation analysis and discrimination validity.

	JA	CF	Mean	Com	SD	Imp	IWB	SS
JA	**0.834**							
CF	0.196**	**0.840**						
Mean	0.240**	0.215**	**0.851**					
Com	0.244**	0.237**	0.388**	**0.854**				
SD	0.214**	0.215**	0.330**	0.304**	**0.784**			
Imp	0.217**	0.265**	0.389**	0.374**	0.343**	**0.865**		
IWB	0.328**	0.289**	0.405**	0.414**	0.364**	0.417**	**0.847**	
SS	0.174**	0.187**	0.355**	0.367**	0.335**	0.350**	0.370**	**0.824**

Note: ** At the 0.01 level (two-tailed), the correlation is significant. * At the 0.05 level (two-tailed), the correlation is significant. Bolded fonts are AVE root values. JA: Job Autonomy; CF: Colleague Feedback; Mean: Meaning; Com: Competence; SD: Self-Determination; Imp: Impact; IWB: Innovative work behavior; SS: Social Support.

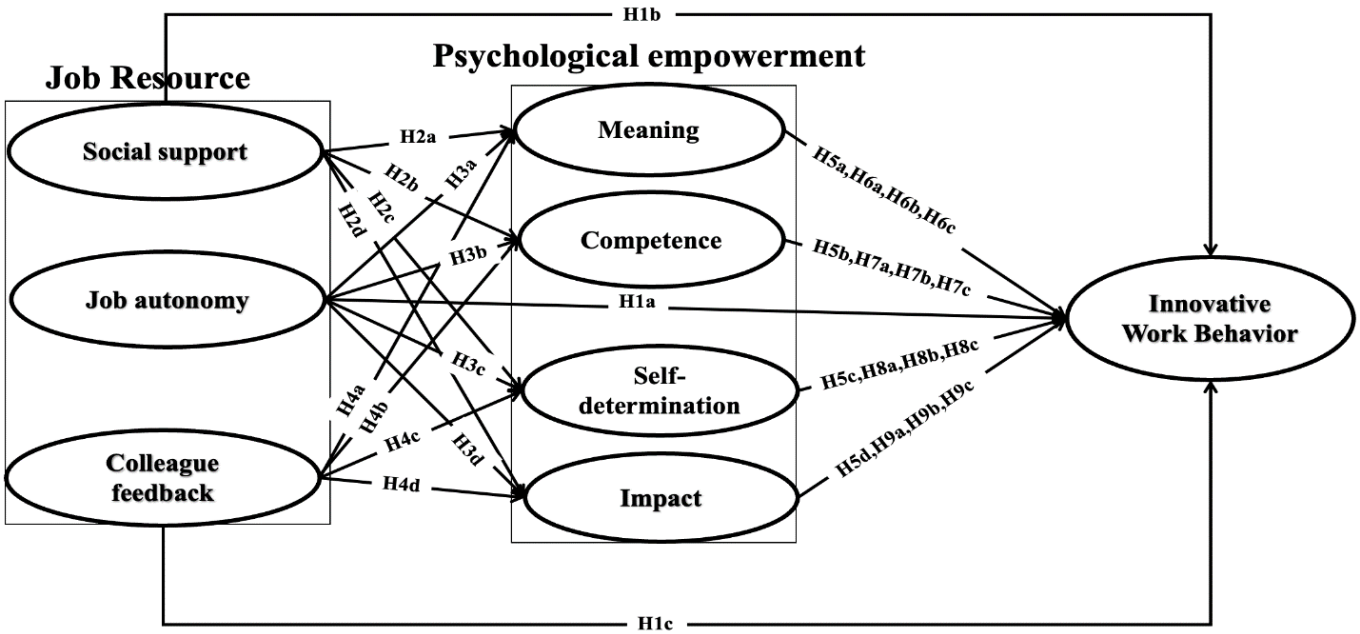

Figure 1. Research model of this research.

Hypothesis testing

As shown in Table 3, the results H1a, H1b, H1c, H2a, H2b, H2c, H2d, H3a, H3b, H3c, H3d, H4a, H4b, H4c, H4d, H5a, H5b, H5c, and H5d based on the hypothesis testing are all supported, and the objective 1 of the research is achieved. The test results are shown in Table 3.

Mediation effects

As shown in Table 4, the H6a, H6b, H6c, H6d, H7a, H7b, H7c, H7d, H8a, H8b, H8c, H8d, H9a, H9b, H9c, H9d all supported, the objective 2 of the research is achieved. The test results are shown in Table 4.

Table 3. Results of structural model testing.

Hypothesis	Model path	β-value	P- value	Test results
H1a	JA→IWB	0.195	***	Supported
H1b	SS→IWB	0.177	0.018*	Supported
H1c	CF→IWB	0.125	0.002**	Supported
H2a	SS→Mean	0.466	***	Supported
H2b	SS→Com	0.447	***	Supported
H2c	SS→SD	0.482	***	Supported
H2d	SS→IMP	0.449	***	Supported
H3a	JA→Mean	0.195	***	Supported
H3b	JA→Com	0.168	***	Supported
H3c	JA→SD	0.178	***	Supported
H3d	JA→IMP	0.149	***	Supported
H4a	CF→Mean	0.133	0.001**	Supported
H4b	CF→Com	0.155	***	Supported
H4c	CF→SD	0.163	***	Supported
H4d	CF→IMP	0.194	***	Supported
H5a	Mean→IWB	0.119	0.011*	Supported
H5b	Com→IWB	0.138	0.002**	Supported
H5c	SD→IWB	0.117	0.019*	Supported
H5d	IMP→IWB	0.137	0.003**	Supported

Note: $*p < 0.05$, $**p < 0.01$, *** $p < 0.001$. JA: Job Autonomy; SS: Social Support; CF: Colleague Feedback; Mean: Meaning; Com: Competence; SD: Self-Determination; IMP: Impact; IWB: Innovative Work Behavior.

Table 4. Bootstrap analysis of mediating effect significance test.

Hypothesis	Model Path	Indirect effect coefficient	Boot LLCI (95%)	Boot ULCI (95%)	P-value	Test results
H6a	SS→Mean→IWB	0.061	0.015	0.121	0.01*	Supported
H7a	SS→Com→IWB	0.069	0.022	0.13	0.002**	Supported
H8a	SS→SD→IWB	0.063	0.006	0.127	0.023*	Supported
H9a	SS→IMP→IWB	0.068	0.023	0.13	0.006**	Supported
H6b	JA→Mean→IWB	0.014	0.004	0.031	0.007**	Supported
H7b	JA→Com→IWB	0.014	0.004	0.028	0.002**	Supported
H8b	JA→SD→IWB	0.012	0.002	0.028	0.019*	Supported
H9b	JA→IMP→IWB	0.012	0.003	0.027	0.004**	Supported
H6c	CF→Mean→IWB	0.011	0.002	0.025	0.007**	Supported
H7c	CF→Com→IWB	0.014	0.005	0.032	0.001**	Supported
H8c	CF→SD→IWB	0.013	0.002	0.029	0.016*	Supported
H9c	CF→IMP→IWB	0.018	0.005	0.035	0.005**	Supported

Note: $*p < 0.05$, $**p < 0.01$, ***: $p < 0.001$. JA: Job Autonomy; SS: Social Support; CF: Colleague Feedback; Mean: Meaning; Com: Competence; SD: Self-determination; IMP: Impact; IWB: Innovative work behavior.

DISCUSSION

Based on social exchange theory, this research established an empirical model of innovative work behavior among university teachers, discussing the influence of job resources and psychological empowerment on teachers' innovative work behavior. Firstly, this research concluded that job resources (social support, job autonomy, and colleague feedback) have a positive impact on teachers' innovative work behaviors. The results of this research support an assertion proposed by Abstein and Spieth (2014) that the autonomy of employees influences innovative work behavior positively and can enhance individual innovative performance. The

results of the present research suggest job autonomy had the most significant effect on innovative work behavior relative to the dimensions of social support and colleague feedback. The researcher concluded that this is because teachers need to be given a high level of autonomy to produce innovative work behaviors, and that job autonomy is more important to produce innovative work behaviors than social support and colleague feedback. Furthermore, colleague feedback has a positive impact on innovative work behaviors, which is supported by Sijbom et al. (2018) who stated that feedback from leaders, colleagues, and customers can enhance innovative work behaviors. However, in this research, the researcher empirically verified that colleague feedback has a positive impact on innovative work behavior. In previous studies, researchers have only mentioned a positive relationship between leadership feedback and innovative work behavior (Eva et al., 2019), and very few studies, using empirical methods, have demonstrated the relationship between colleague feedback and teachers' innovative work behavior, this research bridges this research gap.

Secondly, this research explored the mediating role of psychological empowerment. This result provides an update to the existing literature on the mediating role of psychological empowerment. Huang (2013) pointed out through empirical research that psychological empowerment partially mediates between authentic leadership and innovative work behaviors, and Nguyen et al. (2023) pointed out that psychological empowerment plays a mediating role between corporate culture and innovative work behaviors. These findings suggest that psychological empowerment as a mediating variable has been widely used in the literature on innovative work behaviors; however, unlike previous studies, this research introduces job resources as an independent variable, verifies the mediating role of psychological empowerment on job resources and innovative work behaviors, and provides a new perspective for the research of psychological empowerment as a mediating role of innovative work behaviors.

CONCLUSION AND RECOMMENDATION

Firstly, universities should provide adequate job resources for teachers to enhance their psychological empowerment. Universities should provide teachers with support in all aspects, including financial support, technical support, and information resources, to enhance their confidence and sense of meaningfulness in the academic field, and to stimulate their motivation for scientific research and innovation. Universities should give teachers a certain autonomy in scientific research direction, research methods, experimental design, and so on. This can stimulate teachers' motivation and creativity and enhance their commitment and enthusiasm for scientific research. Furthermore, universities can also establish an evaluation system, through peer review, expert review, and other ways to evaluate and gather feedback on the achievements of teachers, timely discovery and affirmation of excellent results, give teachers a sense of impact on scientific research, motivate teachers to continue to work hard, and at the same time point out shortcomings, and encourage teachers to continuously improve and enhance.

Secondly, university teachers need to make full use of their job resources and develop a higher level of psychological empowerment. Specifically: firstly, university teachers should actively utilize the research facilities, databases and other academic resources and funds provided by the university, which can facilitate the development of research projects and the output of results. Secondly, teachers can obtain the latest academic information and cutting-edge knowledge and stimulate innovative thinking by actively participating in academic exchanges, academic conferences, seminars, and other activities. Thirdly, teachers need to develop independent decision-making ability and action power to promote the enthusiasm and effectiveness of research and innovative work. Finally, teachers should build up confidence in their research ability and potential to make more meaningful research and innovative work.

LIMITATIONS

Firstly, future studies could adopt a longitudinal research design and experiment with different methods to test the proposed framework. Secondly, future researchers should consider introducing different types of job resources to explore the impact on innovative work behaviors. Thirdly, this research was conducted on Chinese university teachers, and to solve the problem of technological blockades that China is currently facing, research can be conducted on the influences on innovative work behaviors of researchers from other research institutions, which will help to solve the problem of technological blockades even further. Finally, there are various scales (dimensions) of psychological empowerment such as (Miguel et al., 2015), therefore it is suggested that future studies could refer to scales developed by different researchers and studies on categorization methods to validate the results of different studies.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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