Research on The Influence of Psychological Capital on Work Performance of Young Teachers in Colleges and Universities in Sichuan Province

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ABSTRACT

With the rapid development of higher education in China, the structure of its teaching staff has undergone significant changes, with more and more young intellectuals joining the industry. However, most young teachers face pressures such as lack of research funding, difficulties in job promotion, and limited accumulation of early academic achievements. This article focuses on the psychological capital of young teachers, investigates its impact on work-family balance and work performance, and verifies the mediating effect of work-family balance between psychological capital and work performance. A convenience sampling method and questionnaire survey were used to investigate 407 young teachers from Sichuan province, China. Regression analysis revealed that the psychological capital of young teachers can promote work performance and work-family balance, and work-family balance can also promote work performance. Furthermore, the psychological capital of young teachers can indirectly improve work performance by reducing work-family conflicts. Based on these findings, this article provides recommendations for school management, leadership, and young teachers, focusing on enhancing the psychological capital of young teachers and achieving work-family balance.

1. Introduction

As China's higher education sector has rapidly developed, the composition of the faculty has undergone significant transformations. A growing number of young intellectuals are pursuing careers in higher education. According to the Ministry of Education's 2018 statistics, the total number of teachers in Chinese universities reached 1.57 million, among which approximately 560,000 were young teachers under 40 years old, comprising 40% of the total number. This percentage is continually increasing, and this demographic has become a critical driving force within universities and essential to maintaining sustainable competitiveness. The statistical data reveals that the proportion of young teachers with deputy senior titles or higher is less than 5% of the total number of young teachers in colleges and universities across the country. Furthermore, many young teachers face challenges in their teaching and research, such as fewer initial achievements and more difficulty in applying for projects, as reported by Chen and Li (2021). Since around 2000, the low-profile personnel system reform in Chinese universities has been repeatedly pushed to the forefront by various news outlets. The introduction of "Up or Out" into China is a top-down personnel system reform being carried out in colleges and universities, and its goal is to eliminate the lifelong system of college teachers. It can be observed that most ordinary young college teachers have not achieved the corresponding social status, and when faced with great pressure from both work and family, such as insufficient scientific research funds, difficulties in promoting professional titles, narrow career development channels, less early academic achievement accumulation, teaching evaluation, and supporting the elderly, marriage, and children, they have become the sandwich layer of "staying the same" and "an embarrassing situation." Various pressures have forced them into this predicament, which has also become the primary reason for the loss of talent in colleges and universities (Wang, 2021). Thus, enhancing the quality of young college teachers, strengthening their management, promoting their academic output, motivating their potential, and improving their work performance has become a top priority for college administrators in China. In addition, the possession of psychological capital has a notable impact on work performance among college teachers. This psychological resource can enable young teachers to effectively balance their work and life roles and reduce work-family conflicts, which helps to maintain a positive and optimistic attitude and achieve a good quality of life. The present study aims to examine the relationship between psychological capital,

work-life balance, and work performance among young college teachers, and offer practical management suggestions to enhance their work performance.

Drawing upon the research background and motivation described above, this study aims to address the following research questions: 1. What are the key determinants of work performance among young college teachers in Sichuan Province, China? 2. To what extent is there a positive correlation between psychological capital and work performance among young college teachers in Sichuan Province, China? 3. How does work-life balance impact work performance among young college teachers in Sichuan Province, China? 4. Does work-life balance serve as a mediating factor in the relationship between psychological capital and work performance among young college teachers in Sichuan Province, China? This study aims to achieve the following objectives based on the research background and motivation: 1. Identify the factors that impact the work performance of young college teachers in Sichuan Province, China. 2. Establish the correlation between psychological capital and work performance among young college teachers in Sichuan Province, China. 3. Explore the relationship between work-life balance and work performance among young college teachers in Sichuan Province, China. 4. Analyse whether work-life balance plays a mediating role in the relationship between psychological capital and work performance among young college teachers in Sichuan Province, China.

2. Literature Review

The objective of this research is to analyse the determinants that impact the work performance of young college teachers in Sichuan Province, China. The research sample consists of in-service teachers in Sichuan Province. According to the Sichuan Provincial Department of Education, there are a total of 134 colleges and universities in Sichuan Province, including 53 undergraduate universities and 81 junior colleges, employing a total of 99,800 full-time teachers of higher education. For this study, the top 10 universities in Sichuan Province were selected for investigation, which include Sichuan University (6571 teachers), Chengdu University of Technology (3821 teachers), University of Electronic Science and Technology of China (3800 teachers), Sichuan Agricultural University (3600 teachers), Sichuan Normal University (3600 teachers), Southwest Jiaotong University (3000 teachers), Southwest University of Science and Technology (2700 teachers), Southwest Petroleum University (2690 teachers), Southwest University of Finance and Economics (1300 teachers), and Chengdu University of Traditional Chinese Medicine (1296 teachers), with a total of 31,284 teachers. Based on the sample size calculation formula, this research requires a minimum of 394 participants. To gather data for this study, a questionnaire survey approach has been adopted to obtain responses from the selected sample. The study meticulously selects relevant sample information from the population of interest to guarantee the reliability and accuracy of the research results.

3. Methodology

In this research, a quantitative research approach was utilized to investigate 392 young university and college teachers from 10 universities and colleges in Sichuan Province. The researchers utilized a questionnaire survey to gather data and subsequently used data processing tools such as SPSS 24.0 and AMOS 24.0 for analysis. This chapter aims to provide a comprehensive introduction to the research methodology employed, including the research object and sampling method, operational definitions of variables, measurement and questionnaire design, reliability and validity testing, data collection procedures, as well as data analysis techniques utilized. The researchers employed a rigorous approach to ensure the validity and reliability of the data collected, and the use of statistical analysis tools allowed for meaningful conclusions to be drawn from the data collected.

4. Data Analysis and Results

We analysed 407 valid questionnaires and found that the three variables used in this study have high reliability and validity. The scales also demonstrate good discriminant validity.

4.1 Descriptive Statistical Analysis

After removing invalid copies that either contained constant answers or self-contradictory responses, 407 valid questionnaires out of the 420 retrieved were included in this investigation. These valid copies make up approximately 96.90% of the total number of questionnaires. To check the validity and representativeness of this investigation, this paper first makes statistics of population background of the questionnaire. Descriptive statistics analysis is in table 1 as follows.

Table 1 Descriptive Statistics Analysis of Population Background

Variable	Type	Frequency	Percent
Gender	Male	259	63.6%
	Female	148	36.4%
Marriage	Married	270	66.3%
	Unmarried	137	33.7%
Title	Lecturer	261	64.1%
	Associate Professor	113	27.8%
	Professor	33	8.1%

Data source: compiled by this paper

This paper conducts descriptive statistics analysis of the 407 valid copies retrieved. As shown in Table 2, the Likert's 7-point scale is utilized, ranging from 1 as the minimum score to 7 as the maximum score. The average score obtained using this scale is 5. The psychological capital, work-family balance, and work performance of the 407 participants in this survey were found to be slightly above average, as the mean was higher than the median by three points. In terms of standard deviation, the work performance had the largest deviation, indicating that participants had a large variance in their perception of work performance.

Table 2 Descriptive Statistic Analysis of Questionnaire

Variable	Min	Max	Mean	Standard Deviation
Psychological Capital	1	7	5.932	1.525
Work-family Conflict	1	7	5.463	1.218
Work Performance	1	7	5.818	1.746

Data source: Compiled by this paper

4.2 Reliability Analysis

The assessment of reliability involves a multitude of techniques. For this study, the SPSS 24.0 software was utilized to evaluate the scale's reliability, with the Cronbach's α coefficient serving as the metric. According to Qiu (2006), a Cronbach's α coefficient of 0.7 or higher suggests that the scale is reliable. As indicated in Table 3, the Cronbach's α coefficient for psychological capital, work-family balance, and work performance are 0.914, 0.875, and 0.950, respectively. The analysis demonstrates that each variable exhibit's good reliability and high internal consistency.

Table 3 Variable Reliability Summary Table

Variable	N of Item	Cronbach's α
Psychological Capital	12	0.914
Work-family Balance	11	0.875
Work Performance	10	0.950
Total	33	0.926

Data source: compiled by this paper

4.3 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is utilized to assess the extent to which the model corresponds to the data, including reliability, convergent validity, and model correspondence verification. To determine the degree of model-data correspondence and the convergent validity of the data, this study employed AMOS 24.0 to conduct verification of model fit, CV, and CR. To assess the degree of correspondence between the data and the model, this study employs confirmatory factor analysis to examine the convergent validity of the scale. The evaluation of the overall model fit includes various statistics such as the $\chi 2/df$, GFI, AGFI, CFI, RMSEA, and PCFI. Following Qiu's (2006) suggestion, this paper considers the following criteria: $\chi 2/df$ should be less than 3 or 5, GFI should be greater than

0.9, AGFI should be greater than 0.8, RMSEA should be less than 0.08, and PGFI should be greater than 0.5.In order to assess the convergent validity of the data, this study examines three elements: the standardized factor loading of observed variables, which should be above 0.5; the factor loading and error variance, which are used to calculate the CR of the constructs. CR tests the internal consistency of the dimensions and is like Cronbach's α. Hair et al. (1998) suggest that the CR value should be above 0.6 to indicate good reliability. Additionally, the AVE is used to measure the average amount of variance that each variable shares with the other variables in its construct. Fornell and Larcker (1981) argue that AVE values of 0.5 or higher indicate good reliability. This article conducted a confirmatory factor analysis of psychological capital, work-family balance, and work performance. The goodness of fit indices in Table 4 demonstrate that the model and data have a strong match: a $\chi 2/df$ less than 5 indicates good match, a GFI above 0.9 indicates good match, an AGFI above 0.8 indicates good match, a CFI above 0.9 indicates good match, an RMSEA less than 0.08 indicates good match, and a PCFI above 0.5 indicates good match. All these indices meet the required standards, indicating a high degree of matching between the model and data.

Table 4 Summary Sheet of Model Fitting Index of Confirmatory Factor Analysis

variable	χ^2/df	GFI	AGFI	CFI	RMSEA	PCFI
Psychological Capital	2.788	0.939	0.903	0.927	0.072	0.741
Work-family Balance	3.258	0.937	0.810	0.956	0.076	0.748
Work Performance	3.609	0.906	0.849	0.941	0.079	0.561
Reference Standard	≤5	≥0.9	≥0.8	≥0.9	≤0.08	≥0.5

Data source: compiled by this paper.

In confirmatory factor analysis, standardized factor loadings, CR, and AVE are three commonly used indicators for evaluating the reliability and validity of latent factors. Standardized factor loadings (λ) refer to the standardized correlation coefficients between latent factors and measurement indicators. CR is a measure of the reliability of latent factors and reflects the consistency or reliability of the measurement indicators included in the latent factor. AVE is a measure of the validity of latent factors and measures the degree to which a latent factor explains its measurement indicators, i.e., the proportion of common variance between the latent factor and the measurement indicators relative to the total variance.Table 5 presents the results of the confirmatory factor analysis conducted in this study. The findings indicate that the λ of the observed variables are greater than 0.5, the CR values exceed 0.6, and the AVE values are above 0.5. These results demonstrate that the scale used in this study has good convergent validity.

Table 5 Summary Sheet of Confirmatory Factor Analysis

Potential variable	Observation variable	λ	CR	AVE
Psychological Capital	PC 1	0.793	0.941	0.570
	PC 2	0.772		
	PC 3	0.748		
	PC 4	0.743		
	PC 5	0.722		
	PC 6	0.758		
	PC 7	0.781		
	PC 8	0.701		
	PC 9	0.731		
	PC 10	0.816		
	PC 11	0.731		
	PC 12	0.758		
Work-Family Balance	WFB 1	0.723	0.929	0.569
	WFB 2	0.709		
	WFB 3	0.778		

	WFB 4	0.738		
	WFB 5	0.731		
	WFB 6	0.747		
	WFB 7	0.838		
	WFB 8	0.750		
	WFB 9	0.709		
	WFB 10	0.811		
	WFB 11	0.837		
Work Performance	WP 1	0.856	0.943	0.623
	WP 2	0.669		
	WP 3	0.813		
	WP 4	0.774		
	WP 5	0.846		
	WP 6	0.871		
	WP 7	0.779		
	WP 8	0.760		
	WP 9	0.705		
	WP 10	0.795		

Data source: compiled by this paper.

4.4 Discriminant Validity and Correlation Analysis

This study employed Pearson correlation analysis to examine the relationships between variables. The results depicted in Table 6 indicated that a significant negative correlation existed between psychological capital and work performance ($r=0.530$, $p<0.01$). Additionally, a significant positive correlation was found between psychological capital and work-family balance ($r=0.465$, $p<0.01$), as well as between work-family balance and work performance ($r=0.567$, $p<0.01$). These findings lend initial support for the hypotheses proposed in this study. Discriminant validity refers to the condition where the square root of AVE for each variable is greater than its correlation with other variables, as proposed by Fornell and Larcker (1981). Table 4.6 presents the correlation matrix between variables and shows that the AVE square root for each variable is greater than its correlation with other variables, indicating that all variables have good discriminant validity.

Table 6 Discriminant Validity and Correlation Analysis Matrix

Variables	1	2	3
Psychological Capital	**0.755**		
Work-family Balance	.465**	**0.754**	
Work Performance	.530**	.567**	**0.789**

Note: ***p*<0.01 Data source: compiled by this paper

4.5 Hypothesis Testing

Table 7 contains 5 models, where the dependent variable for models 1 to 3 is work performance. Model 1, which includes control variables of gender, marriage, and title, has a highly significant F-value of 12.207 ($p<0.001$). Model 2 adds the independent variable of psychological capital to model 1, resulting in an increase in R2 to 17.6%, a 5.6% improvement in the explained variance compared to model 1. In the regression coefficients, psychological capital has a significant positive effect on work performance ($\beta=0.346$, $p<0.001$), suggesting that higher psychological capital is associated with higher work performance. This confirms the research hypothesis H2 and meets the first condition proposed by Baron and Kenny (1986) that the independent variable has a significant effect on the dependent variable. In models 4 and 5, work-family balance was the dependent variable. Model 4, which included control variables of gender, marriage, and title, had a non-significant F-value of 1.204 ($p>0.05$). Model 5 added psychological capital as an independent variable, resulting in an R2 increase to 21.4%, which showed a 20.1% improvement in the explained variance compared to model 4. The regression coefficients demonstrated that

psychological capital had a significant positive effect on work-family balance (β=0.465, p<0.001), indicating that a higher psychological capital was associated with better work-family balance. This supported research hypothesis H1 and satisfied Condition 2 suggested by Baron and Kenny (1986) that the independent variable had a significant effect on the mediating variable. In Model 3, the mediator variable of work-family balance was added to Model 2. The R2 increased to 34.1%, which indicates that work-family balance plays an important role in work performance as a mediator variable. The regression coefficient shows that work-family balance has a significant positive effect on work performance (β=0.457, p<0.001), indicating that higher work-family balance is associated with higher work performance. This finding supports the research hypothesis H3 and meets the third condition proposed by Baron and Kenny (1986), which states that the mediator variable has a significant impact on the dependent variable. Model 3 incorporates the mediator variable work-family balance on top of Model 2, resulting in an increase of R2 to 34.1%, which explains an additional 16.5% of the variance in work performance compared to Model 2. This indicates that work-family balance plays an important role in explaining work performance. The regression coefficient shows a significant positive effect of work-family balance on work performance (β = 0.457, p < 0.001), meaning that a higher level of work-family balance is associated with better work performance. This finding supports our research hypothesis H3 and satisfies the third condition proposed by Baron and Kenny (1986): the mediator variable has a significant impact on the dependent variable. When adding the mediator variable work-family balance in Model 3, we observed a decrease in the coefficient of psychological capital on work performance from 0.345 in Model 2 to 0.159 in Model 3. This decrease satisfies Baron and Kenny's (1986) Condition 4, which states that the effect of the independent variable on the dependent variable should decrease after adding the mediator variable. This indicates that work-family balance partially mediates the relationship between psychological capital and work performance, providing support for our research hypothesis H4. All VIF values for the explanatory variables in Table 4.7 were less than 10, indicating no multicollinearity issues. Additionally, the D-W value is close to 2, indicating no serious autocorrelation problems.

Table 7 Mediation Effect Analysis of Work-Family Balance between Psychological Capital and Work Performance

	DV: Work Performance			DV: Work-Family Balance	
	Model 1	Model 2	Model 3	Model 4	Model 5
	β	*β*	*β*	*β*	*β*
Gender	0.168***	0.123**	0.124**	-0.085	0.005
Marriage	-0.039***	-0.021	-0.019	0.016	-0.012
Title	0.026	0.027	0.021	0.016	0.017
Psychological Capital		**0.346*** **	**0.159** **		**0.465*** **
Work-Family Balance			**0.457*** **		
R^2	0.121	0.176	0.341	0.013	0.214
Adj R^2	0.110	0.166	0.331	0.002	0.204
ΔR^2	0.121	0.056	0.165	0.013	0.201
F	12.207***	36.429***	34.587***	1.204	137.033***
D-W	1.835	1.792	1.820	1.812	1.755

Note: *p < .05; **p < .01; ***p < .001

5. Conclusion

Through empirical analysis of the survey data, the hypotheses proposed in this paper were verified. The research conclusions are as follows: The empirical analysis conducted in this study showed that young professors in Chinese universities who possess higher levels of psychological capital exhibit better work performance, which is consistent with previous research (Muthukumar, Riasudeen, & Mathivan, 2017; Wu, 2018; Gong, Chen, & Wang, 2019; Wang, 2020; Nguyen & Ngo, 2020). The findings suggest that enhancing psychological capital could have a positive impact on work performance and can be a valuable resource for young professors to improve their performance in the workplace. The analysis conducted in this study provides evidence that psychological capital has a positive influence on work-family balance, which is in line with previous research (Zhang, Liu, & Yang, 2010; Qin, Tang, Shang, Ran, & Tang, 2018; Xue, 2020). This finding suggests that young professors in Chinese universities who possess high psychological capital are more likely to have better work-family balance. As a result, they may experience less work-family conflict, which can lead to increased job satisfaction and overall well-being. These findings contribute to our understanding of the role of psychological capital in work-family balance and have important implications for individuals and organizations seeking to promote work-life balance. The findings of this study align with previous research indicating that work-family balance has a positive impact on work performance. Researchers have suggested that this positive relationship could be due to the fact that achieving work-life balance can enhance individuals' overall well-being and reduce stress levels, thereby improving their motivation and productivity in the workplace. Therefore, the results of this study suggest that young Chinese university professors who maintain a healthy balance between their work and personal life are likely to exhibit higher levels of work performance. Through the quantitative analysis, it has been observed that work-family balance mediates the relationship between psychological capital and work performance among young Chinese university teachers. This finding is in line with the previous studies (Liu, Wang, & Li, 2017; Ma, Liu, & Li, 2019), indicating that work-family balance plays a crucial role in enhancing the work performance of individuals with higher psychological capital. Therefore, young teachers in Chinese universities can improve their work performance by achieving a better work-family balance, which can be facilitated by cultivating psychological capital.

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