

A Study on The Impact of Work Stress on Job Burnout of Chinese University Teachers: The Mediating Effect of Job Satisfaction

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ABSTRACT

The purpose of this study is to establish work stress and job satisfaction as the main variables affecting job burnout among Chinese university teachers and to verify the mediating role of job satisfaction in the relationship between work stress and job burnout. SPSS 27.0 and AMOS 26.0 programs were used for descriptive statistical analysis, independent sample T-test, analysis of variance, correlation analysis, regression analysis and structural equation model. There is a significant positive correlation between work stress and burnout, and a significant negative correlation between job satisfaction and burnout among university teachers in Jiangsu, China. In addition, on the relationship between work stress and job burnout, part of the media effect of job satisfaction is verified. This study is helpful to alleviate the work stress and job burnout of university teachers, build a reasonable and standardized management system and a diversified talent development platform, and help university teachers relieve stress and improve job satisfaction. It will provide reference for deepening the reform of university education system.

KEYWORDS

University Teachers; Work Stress; Job Satisfaction; Job Burnout

1 Introduction

1.1 Research Necessity

With the continuous deepening of education reform and the continuous advancement of the professionalization of teacher education, The professional stress of university teachers has become the focus of government and society. Teachers have become one of the high incidence groups of burnout. Job burnout not only affects the physical and mental health of teachers, the improvement of teaching efficiency and the stability of teachers, but also affects the physical and mental healthy development of students. Existing studies have confirmed that work stress is an important influencing variable of job burnout. Fogarty et al. (2000) found a high correlation between workload and working time work stress and job burnout. The work factor mainly causes the work stress to the individual to some extent and leads to the individual job burnout. Through preliminary research, it is found that domestic scholars' research on teacher burnout mostly conducts empirical research based on learning from foreign burnout research theories. Domestic research on teacher burnout also focuses on primary and secondary school teachers, which is similar to foreign countries(Wu et al., 2019). Work stress and job satisfaction are variables that significantly predict burnout. Therefore, it is necessary to study the relationship between work stress and job burnout of university teachers,

find effective measures, reduce the work stress of university teachers, and then prevent and intervene in job burnout.

This study emphasizes the necessity of improving the mental health of university teachers and focuses on university teachers who need more attention. And regards job satisfaction as the medium in the relationship between work stress and job burnout. From this point of view, it is different from other previous studies.

1.2 Research Purpose and Research Questions

The purpose of this study is to verify the influence of work stress on job burnout and the media effect of job satisfaction under this relationship among university teachers in Jiangsu, China. The research questions are as follows: First, what are the effects of work stress and job satisfaction on job burnout of Chinese university teachers? Second, in the relationship between work stress and job burnout of Chinese university teachers, what is the media effect of job satisfaction?

2 Theoretical Background

2.1 Work Stress

The originators of the research on teacher work stress, defined teacher work stress as: Caused by the teacher's work and through the teacher's perception of events that threaten his or her self-esteem and health, Simultaneously activates coping mechanisms that reduce threat intuitions to regulate emotional experiences(Kyriacou & Sutcliffe, 1978). From the existing research, it can be seen that the stress of university teachers mainly comes from organizational management, workload, academic research, personal development and interpersonal relationships.

2.2 Job Satisfaction

Hoppock (1937), who was the first to define job satisfaction, believed that "job satisfaction is an individual's direct feelings about his or her job, and is the sum of feelings about various factors such as physical, psychological and environmental".

Most of the current studies on teachers' job satisfaction in China tend to adopt Feng (1996) definition of teachers' job satisfaction, that is, teachers' job satisfaction refers to their overall emotionally charged feelings and perceptions of the profession they are engaged in as well as their working conditions and situations.

2.3 Job Burnout

According to Maslach and Jackson, job burnout is mainly manifested in three dimensions: emotional exhaustion, depersonalization and diminished personal accomplishment. The so-called teacher burnout refers to the state of emotional depression and physical and mental exhaustion that teachers show in their work due to the pressure of work, anxious mood and low self-efficacy and achievement.

2.4 Relationship between Variables

2.4.1 The Relationship between Work Stress and Job Satisfaction

As for the relationship between work stress and job satisfaction, some researches at home and

abroad believe that work stress is an important variable affecting job satisfaction. Zheng (2010) also found that there was a negative correlation between work stress and job satisfaction of teachers, and job satisfaction gradually decreased with the increase of work stress.

2.4.2 The Relationship between Job Satisfaction and Job Burnout

As for the relationship between job satisfaction and job burnout, research shows that there is a correlation between job satisfaction and job burnout. It found that job satisfaction is related to the dimensions of low sense of accomplishment and emotional exhaustion in job burnout, and has a negative predictive effect on job burnout (Piko, 2006).

2.4.3 The Relationship between Work Stress and Job Burnout

As for the relationship between work stress and job burnout, existing studies have confirmed that work stress is an important influencing variable of job burnout. Cui et al. (2011) found that the total score of work stress of university teachers was significantly positively correlated with the total score of job burnout. At the same time, work stress not only directly affects job burnout, but also indirectly affects job burnout through job satisfaction. However, the specific degree of impact is not clear.

3 Research Methods

3.1 Research Model

In this research model, Chinese university teachers' work stress is set as an independent variable, job satisfaction as a parametric variable, and job burnout as a dependent variable.

3.2 Research Participants

The subjects of the study were university teachers in Jiangsu Province, China. A total of 502 questionnaires were distributed, 502 valid questionnaires with a validity rate of 100%, including 210 males and 292 females. The sample included 74 people without professional title, 58 people with junior professional title, 214 people with intermediate professional title, 140 people with Associate senior title, and 16 people with Senior professional title.

3.3 Research Instruments

1) Work Stress Scale for University Teachers

This study used the Work Stress Scale for Chinese university teachers designed by Li (2005) as a reference and was developed according to the target population and the purpose of the study. There are 12 items and 4 dimensions on the scale, which are job security, teaching and research, interpersonal relationship, and workload. The Cronbach Alpha coefficient of the overall test of the questionnaire is .911, which indicates that the questionnaire has good reliability.

2) Job Satisfaction Scale

This research questionnaire was prepared on the basis of Teacher's Job Satisfaction Scale prepared by Feng (1996) and according to the research objectives. The overall scale consists of seven items such as self-actualization, work intensity, salary income, leadership relationship, colleague relationship, etc. The Cronbach Alpha coefficient of the overall test of the questionnaire is .919, which indicates that the questionnaire has good reliability.

3) Job Burnout Scale

The questionnaire for this study was the Burnout Questionnaire developed by Maslach and revised by Dr. Dong, in 2020. This questionnaire consists of three dimensions: three dimensions of emotional exhaustion, depersonalization, and diminished personal accomplishment. The total Cronbach Alpha coefficient for this questionnaire was .870; the Cronbach Alpha coefficients for the dimensions of emotional exhaustion, depersonalization, and diminished personal accomplishment were .885, .875, and .843, respectively, which provided relatively convincing reliability.

3.4 Data Analysis

This study used SPSS 27.0 to conduct statistical analysis on the collected data. Descriptive analysis and independent sample t-test and one-way analysis of variance (ANOVA), Pearson correlation analysis. Regression analysis was used to verify the mediating effect of job satisfaction on the impact of work stress on job burnout among university teachers.

4 Results and Discussion

4.1 The Overall Situation of Job Burnout, Work Stress and Job Satisfaction of University Teachers

In order to confirm the normal distribution of the variables assumed in this study, skewness and kurtosis were confirmed before the regression analysis. The analysis results show that the standard skewness of all variables is less than 2 and the standard kurtosis is less than 7, which can be judged to meet the normal distribution conditions (Kline, 2016).

The analysis results are discussed as table 1. The average of the variable of emotional exhaustion on job burnout, was 2.78 ($SD=.88$), the average of depersonalization was 1.87 ($SD=.92$), and the average of diminished personal accomplishment was 2.20 ($SD=.91$). By using the same measurement tool as this study, Zhao(2005) conducted a survey on 167 university teachers in Jilin City, and the results showed that emotional exhaustion scored 2.19, depersonalization 1.71, and personal accomplishment 1.49. This shows that the emotional exhaustion degree of college teachers in Jiangsu Province was higher than that in other areas, the degree of depersonalization was moderate, and the degree of diminished personal accomplishment was lower than the average. It shows that the job burnout of college teachers in Jiangsu Province already exists, and shows a certain trend.

The average of the variable of job security on work stress was 3.04 ($SD=.85$), the average of teaching and research was 3.08 ($SD=1.05$), and the average of interpersonal relations was 2.58 ($SD=1.01$), and the average of work load was 3.27 ($SD=1.04$). Zheng (2008) conducted a survey of 252 university teachers in Chongqing using the same measurement tool as this study, and the results showed that job security scored 2.18, teaching and research score 2.36, interpersonal relationship score 2.07, and work load score 2.52. The work stress of the subjects in this study is 3.09 out of the full score of 5, the average score is 3. The results show that the university teachers in Jiangsu Province show a certain amount of stress, which is greater than that of the university teachers in other areas. The factors that affect the work stress of college teachers are workload, teaching and research, job security and interpersonal relationship.

According to the Sub-Dimensions of the job satisfaction , they are 3.46 points for overall satisfaction, 3.53 points for welfare compensation, 3.06 points for job title evaluation, 3.20 points for advanced study, 3.25 points for job recognition, 3.09 points for system and policy, and 3.23 points for sense of achievement. As a similar tool to this study, Liao (2022), who surveyed 133 physical

education teachers in Chongqing University, had an overall job satisfaction score of 3.21, which was lower than the general score of 3.24. This shows that the job satisfaction of college teachers in Jiangsu Province is not high, and it is generally medium. The factors that affect the job satisfaction of university teachers are welfare remuneration, job recognition, sense of achievement, further study, system policy and title evaluation.

4.2 The Difference of Job Burnout in Gender and Professional Title of University Teachers

As shown in Table 2. Firstly, the differences of job burnout among different genders in the general characteristics of university teachers were investigated. The results showed that female ($2.37 \pm .80$) had a higher job burnout level than male ($2.34 \pm .80$), but there was no statistically significant difference ($t = -.31, p = .76$). Secondly, according to professional titles, associate senior titles ($2.45 \pm .81$) were the highest, followed by junior titles ($2.37 \pm .78$), intermediate titles ($2.35 \pm .83$), no titles ($2.29 \pm .67$), and senior titles ($2.01 \pm .96$), but there was no statistically significant difference ($F = 1.34, p = .26$).

4.3 The Relationship Between Work Stress, Job Satisfaction and Job Burnout

The analysis results show in Table 3 that for university teachers' job burnout, work stress ($r = .67, p < .01$) is positively correlated, while job satisfaction is negatively correlated ($r = -.44, p < .01$), and work stress was negatively correlated with job satisfaction ($r = -.45, p < .01$). The results of the analysis confirmed that there was no high correlation between the variables above .80 and no multicollinearity problem. There is a significant negative correlation between work stress and job satisfaction, which is consistent with previous research results. For example, Zheng (2010) study showed that the total score of job satisfaction is significantly negatively correlated with the workload level and total score of work stress at .01 level. Secondly, there is a significant positive correlation between work stress and job burnout.

Table 1 The Overall Situation of Job Burnout, Job Stress and Job Satisfaction of University Teachers

N=502

Dimension	Sub-Dimension	Min	Max	Mean	SD	Skewness	Kurtosis
JB	EE	1	5	2.78	.88	.67	.35
	DEP	1	5	1.87	.92	1.28	1.40
	DPA	1	5	2.20	.91	.78	.21
WS	JSE	1	5	3.04	.85	-.24	-.13
	TR	1	5	3.08	1.05	-.18	-.70
	IR	1	5	2.58	1.01	.53	-.24
	WL	1	5	3.27	1.04	-.40	-.11
JS	OS	1	5	3.46	.97	-.45	-.13
	WC	1	5	3.53	.92	-.30	-.17
	JTE	1	5	3.06	1.03	-.22	-.33
	AS	1	5	3.20	.99	-.11	-.24
	JR	1	5	3.25	1.05	-.14	-.48
	SP	1	5	3.09	.92	.38	.34
	SA	1	5	3.23	1.05	-.09	-.45

Note: WS: Work Stress, JS: Job Satisfaction, JB: Job Burnout; EE: Emotional Exhaustion, DEP: Depersonalization, DPA: Diminished Personal Accomplishment; JSE: Job Security, TR: Teaching and Research, IR: Interpersonal Relations, WL: Working Load; OS: Overall Satisfaction, WC: Welfare Compensation, JTE: Job Title Evaluation, AS: Advanced Study, JR: Job Recognition, SP: System and Policy, SA: Sense of Achievement.

Table 2 The Difference of Job Burnout in Gender and Professional Title of University Teachers

N=502

Variable	Distinguish	N(%)	Job Burnout		
			<i>M</i> ± <i>SD</i>	<i>t/F</i>	<i>p</i>
Gender	Male	210(41.8%)	2.34±.80	-.31	.76
	Female	292(58.2%)	2.37±.80		
Professional Title	No title	74(14.7%)	2.29±.67	1.34	.26
	Junior title	58(11.6%)	2.37±.78		
	Intermediate professional title	214(42.6%)	2.35±.83		
	Associate senior title	140(27.9%)	2.45±.81		
	Senior professional title	16(3.2%)	2.01±.96		

Table 3 Correlation between Work Stress, Job Satisfaction, and Job Burnout

	WS	JS	JB
WS	1		
JS	-.45**	1	
JB	.67**	-.44**	1

** $p < .01$ WS: Work Stress, JS: Job Satisfaction, JB: Job Burnout

4.4 The Media Effect of Job Satisfaction on The Influence of Work Stress on Job Burnout among University Teachers

To demonstrate the media effects of job satisfaction in the perceived relationship between work stress and burnout among university teachers, the three-stage verification procedure proposed by Baron and Kenny (1986) was used. In addition, Bootstrap method was also implemented to verify the significance of indirect effects. Table 4 shows that in the first stage, the influence of work stress on job satisfaction as a parameter is statistically significant ($\beta = -.45$, $p < .001$), and the influence of work stress on job satisfaction is about 19.8%. In the second stage, work stress of the independent variable had a statistically significant influence on job burnout of the dependent variable ($\beta = .67$, $p < .001$), and work stress explained about 44.1% of the influence of the job burnout variable. Then, in the third stage, the independent variable work stress and parameter job satisfaction were input as independent variables, and the job burnout was input as dependent variables. The parametric regression analysis was carried out. The results showed that the influence of work stress on job burnout was reduced than before, but the static relationship was still significant. Job satisfaction has a partial media effect on the relationship between work stress and job burnout of university teachers ($\beta = .58$, $p < .001$). The survey showed that work stress and job satisfaction explained about 46.6% of the burnout variable. In order to verify the intermediary effect, Bootstrap method was tested. The results showed that the effect size of indirect effect in the path from work stress to job satisfaction to job burnout was .09, $p < .01$. In the relationship between work stress and job burnout of university teachers, part of the mediating effect of job satisfaction is produced at the $p < .01$ level.

Table 4 The Media Effect of Job Satisfaction on The Influence of Work Stress on Job Burnout among University Teachers

N=502

N	Variable		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>Adj.R</i> ²	<i>F</i>
	Independent	Dependent						
1	WS	JS	-4.98	.05	-.45	-11.17***	.19	124.54***
2	WS	JB	.37	.04	.67	19.89***	.44	395.58***
3	WS	JB	.64	.04	.58	15.98***	.47	219.94***
	JS		-.18	.04	-.18	-5.02***		

*** $p < .001$. Note: WS: Work Stress; JS: Job Satisfaction; JB: Job Burnout; B=Unstandardized Estimates; SE=Standardized Error; β =Standardized Estimates; Adj.=Adjusted.

5 Conclusion and Suggestion

5.1 Conclusion

First, Work Stress and Job Satisfaction of University Teachers in Jiangsu, China are Significantly Related to Job Burnout

According to the research results, there is a significant negative correlation between work stress and job satisfaction of university teachers in Jiangsu, China.

There is a significant positive correlation between work stress and job burnout, and a significant negative correlation between job satisfaction and job burnout. At the same time, Sun (2003) research results show that excessive work stress will also have an impact on teachers' professional interest, professional attitude and professional behavior. The results of this study arouse the awareness of university teachers' stress and job burnout, and schools can provide anti-stress training and emotional release training courses to help the development of university teachers' talents.

Second, Job Satisfaction Plays a Partial Mediating Role in The Relationship between Job Stress and Job Burnout among Chinese University Teachers

Research shows that job satisfaction plays a part of the media effect on the relationship between work stress and job burnout. This is consistent with previous research conclusions (Huang, 2009). This suggests that we should build multiple platforms, actively provide support systems to alleviate the work stress and job burnout of university teachers, and promote the development of university teachers' talents.

5.2 Suggestion

Based on the results of this study, suggestions for further research are as follows:

First, it is necessary to conduct a study involving all school teachers in the future.

Second, this study only selected some universities in Jiangsu province as the research samples, which may lead to deviations in sample selection. Therefore, follow-up studies need to include more university faculty from different regions.

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