

The Impact of Primary Work Stressors on Work Performance among University Lecturers in Shaanxi, with Self-efficacy as a Moderating Variable

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Abstract: This study delves into the relationship between the primary sources of work stress and work performance among university lecturers in Shaanxi Province, China, with the introduction of self-efficacy as a key moderating variable. Drawing on foundational theories like the Job Demands-Resources Model and Self-Efficacy Theory, the research framework incorporates ten hypotheses. Employing quantitative analysis, the study, based on convenient sampling, gathered 433 valid responses from university lecturers in Shaanxi. Findings reveal that intrinsic job factors positively influence work performance, while interpersonal relationships, career development, university atmosphere, and work-family conflict have negative effects. Self-efficacy effectively moderates the relationships between intrinsic job factors, career development, work-family conflict, and work performance. This research contributes empirical support to concepts and theories related to work stress and work performance, providing a practical basis for policies in stress and performance management for university lecturers and offering valuable suggestions for individual stress regulation and enhancing personal competitiveness.

Keywords: University Lecturers; Work Stressors; Work Performance; Self-efficacy.

1. Introduction

In the context of rapid technological advancements and continuous improvement in the quality of higher education, the reform and development of higher education present new opportunities for university lecturers. However, they also bring about significant challenges and pressures. On October 11, 2018, Dr. Zhao Yanyun, a young lecturer aged only 35 from Zhongnan University of Economics and Law, tragically passed away due to a sudden cardiac arrest while attending a lecture at Huazhong University of Science and Technology [1]. On September 24, 2017, Professor He Zhi, a 35-year-old recipient of the "Young Thousand Talents Program" from the Chemistry School of Beijing Normal University, passed away due to illness. On April 19, 2011, 32-year-old Yu Juan, a female lecturer from Fudan University, also passed away due to illness [2]. Despite their notable achievements in teaching and research, these young university lecturers are unable to withstand the multifaceted pressures of teaching, research, and promotion, resulting in untimely deaths during their prime years.

Research conducted by Hu indicates that the intensity of lecturers' work pressure has reached a moderate to relatively high level, with intrinsic job factors and research task assessments being the primary sources of pressure [3]. In a study focused on young lecturers from selected universities in Guangdong Province, Lin and Zhang find that sources of stress for young lecturers include research, title evaluation, life, teaching, and interpersonal relationships [4]. If these pressures are not effectively relieved, they can significantly impact the physical and mental health as well as the work efficiency of lecturers [5].

This study selects lecturers who teach undergraduates from universities in Shaanxi as the research subjects with the aim of identifying the impact of key work stressors on job performance. The study also aims to explore the moderating

effect of self-efficacy, ultimately proposing strategies to alleviate lecturers' work pressure and enhance job performance.

2. Fundamental Theories and Conceptual Framework

2.1. Job Demand-Resources Model

The Job Demand-Resources (JD-R) Model is a theoretical framework designed to provide a comprehensive understanding of the relationship between job characteristics, employee well-being, and performance. Developed by Arnold Bakker and Evangelia Demerouti, this model is extensively utilized in the fields of occupational and organizational psychology to examine the impact of various job demands and resources on employees' experiences and outcomes [6].

At the core of the JD-R Model is the fundamental premise that the interplay between job demands and resources influences the well-being and performance of employees. The model posits that a balance between high job demand and sufficient job resources can yield positive outcomes, such as increased work engagement and enhanced performance. Conversely, a lack of resources to cope with high demand may result in adverse consequences, such as burnout and decreased performance [7].

2.2. Self-Efficacy Theory

Self-efficacy theory, developed by psychologist Albert Bandura, is a psychological concept that focuses on individuals' beliefs in their ability to influence their own functioning and events in their lives [8]. It is a central component of social cognitive theory and emphasizes the role of self-perception in shaping behavior, motivation, and achievement [9].

2.3. Conceptual Framework

The JD-R model focuses on achieving a balance between job demands and resources, providing key insights into understanding the relationship between work stress and job performance [10]. In the context of university lecturers, this is instrumental in identifying which job demands may have negative impacts on performance and which resources may positively influence performance.

Self-Efficacy Theory centers on individuals' beliefs in their own capabilities, specifically their confidence in completing tasks [11]. In the context of university lecturers, who are tasked with handling complex teaching responsibilities, their confidence and beliefs play a crucial role in coping with work stress and enhancing performance. Self-efficacy theory offers a theoretical framework that enables researchers to understand how self-efficacy moderates the relationship between work stress and performance. Individuals with high self-efficacy, when faced with work stress, are likely to respond more effectively to challenges, adopting proactive strategies and thereby exhibiting better performance in their work [12].

By combining the JD-R model and Self-Efficacy Theory, a more comprehensive understanding of the work environment for university lecturers in Shaanxi Province can be achieved. The JD-R model aids in comprehending the impact of job demands and resources, while the Self-Efficacy Theory contributes to revealing the psychological regulatory mechanisms at play within individuals during this process.

Based on these two foundational theories, the researchers have formulated the Conceptual Framework depicted in Figure 1.

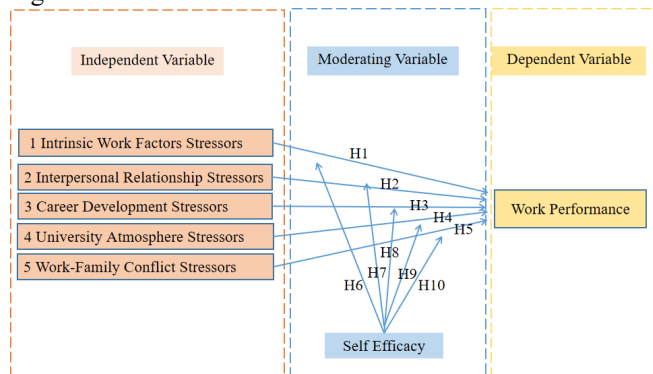


Figure 1. The Conceptual Framework

3. Methodology

3.1. Research Method

This study employs a quantitative research approach to explore the impact of work stressors on job performance in Shaanxi universities. Quantitative research involves the collection of numerical data and the use of statistical analysis to draw conclusions and make inferences about the population.

3.2. Sampling Design

To achieve the research objectives, a convenience sampling method is employed, selecting lecturers from five universities in Shaanxi Province as the study participants. A total of 600 questionnaires are distributed, with 519 questionnaires returned. After screening, 433 valid questionnaires are obtained, resulting in an effective response rate of 83.43%. These 433 questionnaires form the basis for our empirical study.

3.3. Questionnaire Development

The study primarily utilizes a survey method with a meticulously designed set of measurement items or questions. The questionnaire process is divided into the pilot and formal measurement stages, collecting research data and conducting a cross-sectional study on the sampled individuals. The final survey questionnaire consists of four sections: "Basic Information," "Work Stressors," "Work Performance," and "Self-Efficacy," comprising a total of 33 Likert-scale questions developed using the five-point Likert method [13].

3.4. Data Analysis

The researcher performs reliability and validity tests using SPSS and AMOS. Subsequently, hypothesis testing is conducted through multivariate linear regression analysis using SPSS [14].

4. Results and Findings

4.1. Demographic Information

These 433 questionnaires form the foundation for our empirical study. Detailed data composition is presented in Table 1.

Table 1. Demographic Information

	Characteristic	Frequency	Percent (%)	Cumulative Percent (%)
Gender	Male	44	37%	37%
	Female	75	63%	100%
Degree	Doctorate degree	66	56%	56%
	Master's degree	43	36%	92%
	Bachelor's degree and others	10	8%	100%
Professional title	Professor	10	8%	8%
	Associate professor	35	29%	38%
	Lecturer	45	38%	76%
	Assistant Lecturer and others	29	24%	100%
Academic discipline	Natural sciences	24	20%	20%
	Social Sciences	36	30%	50%
	Humanities	59	50%	100%
Years in the workforce	0-10 years	49	41%	41%
	10-20 years	43	36%	77%
	20 years and above	27	23%	100%

4.2. Reliability and Validity Analysis

Table 2. Cronbach's Alpha, CR & AVE

Variable	Cronbach's Alpha	CR	AVE
Intrinsic Work Factors	0.889	0.89	0.669
Interpersonal Relationships	0.873	0.874	0.635
Career Development	0.910	0.912	0.674
University Atmosphere	0.903	0.905	0.655
Work-Family Conflict	0.860	0.863	0.56
Work Performance	0.859	0.863	0.513
Self-Efficacy	0.863	0.863	0.612

Table 2 provides an overview of the reliability and validity measures for the study's variables. Cronbach's Alpha values indicate the internal consistency of each variable, with all variables demonstrating strong reliability—ranging from 0.859 to 0.910. Composite Reliability (CR) values, measuring the consistency of the latent constructs, range from 0.863 to 0.912, further affirming the reliability of the variables. Average Variance Extracted (AVE) values, representing the proportion of variance captured by the construct relative to measurement error, are satisfactory, ranging from 0.513 to

0.674. These findings collectively affirm the reliability and convergent validity of the measurement constructs, supporting their suitability for subsequent analyses in the study [15].

Table 3 presents a comprehensive evaluation of fit indices for the structural model, gauging its adequacy in representing observed data [16]. The model exhibits favorable results across multiple criteria, including a Chi-square to degrees of freedom ratio (χ^2/df) of 2.339, falling within the ideal range. Additionally, the Root Mean Square Error of Approximation (RMSEA) at 0.056 and the Standardized Root Mean Square Residual (SRMR) at 0.045 indicate acceptable fit. Other indices such as the Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), Relative Fit Index (RFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), and Comparative Fit Index (CFI) all surpass or meet acceptable thresholds, affirming the overall goodness of fit for the structural model. These results collectively suggest a sound representation of the underlying relationships in the study, reinforcing the model's validity and reliability [17].

Table 3. Model Fit Indices

Fit Indices	Evaluation Criteria		Measurement Values of the Structural Model	Result
	Ideal	Acceptable		
	χ^2/df	<3	<5	2.339
RMSEA	<0.05	<0.08	0.056	Acceptable
SRMR	<0.05	<0.08	0.045	Ideal
GFI	>0.9	>0.8	0.863	Acceptable
AGFI	>0.9	>0.8	0.838	Acceptable
NFI	>0.9	>0.8	0.879	Acceptable
RFI	>0.9	>0.8	0.865	Acceptable
IFI	>0.9	>0.8	0.927	Ideal
TLI	>0.9	>0.8	0.918	Ideal
CFI	>0.9	>0.8	0.926	Ideal

4.3. Hypothesis Testing

In Model 1, the findings reveal significant relationships between specific variables and Work Performance (WP) in Model 1. Firstly, Intrinsic Work Factors (IWF) exhibit a significantly positive impact on WP ($\beta = 0.442$, $p < 0.001$), meeting the criteria for significance. Secondly, Interpersonal Relationships (IR) have a significantly negative impact on WP ($\beta = -0.127$, $p < 0.01$), satisfying the significance conditions. Additionally, Career Development (CD) shows a significantly negative impact on WP ($\beta = -0.138$, $p < 0.01$), meeting the significance criteria. Simultaneously, the University Atmosphere (UA) has a significantly negative impact on WP ($\beta = -0.118$, $p < 0.05$), meeting the established significance levels. Lastly, Work-Family Conflict (WFC) exhibits a significantly negative impact on WP ($\beta = -0.172$, $p < 0.001$), meeting the significance conditions. In summary, the results affirm that the impacts of these variables on Job Performance in Model 1 are statistically significant, in accordance with accepted standards of assessment. The study provides robust support for Hypotheses H1 to H5.

In Model 2, the interaction term of Intrinsic Work Factors and Self-Efficacy (IWF×SE) reveals a statistically significant positive impact on Work Performance (WP) with a β coefficient of 0.121 ($p < 0.01$). This confirms the acceptance of hypothesis H6. Conversely, the interaction term of Interpersonal Relationships and Self-Efficacy (IR×SE) does not yield a significant impact on WP ($\beta = -0.049$, $p > 0.05$), leading to the rejection of hypothesis H7. On the other hand, the interaction term of Career Development and Self-Efficacy (CD×SE) demonstrates a significant positive impact on WP

with a β of 0.138 ($p < 0.01$). As SE increases, the influence of Career Development on WP weakens, confirming the negative moderating effect of SE on the impact of CD on WP and supporting the acceptance of hypothesis H8. Similarly, the interaction term of University Atmosphere and Self-Efficacy (UA×SE) does not exhibit a significant impact on WP ($\beta = -0.051$, $p > 0.05$), leading to the rejection of hypothesis H9. Conversely, the interaction term of Work-Family Conflict and Self-Efficacy (WFC×SE) shows a significant negative impact on WP with a β of -0.118 ($p < 0.05$). As SE increases, the impact of Work-Family Conflict on WP strengthens, confirming the positive moderating effect of SE on the impact of WFC on WP and supporting the acceptance of hypothesis H10. These findings provide detailed insights into the moderating role of self-efficacy in the relationship between specific job-related factors and work performance [18].

Table 4. Hypothesis Testing

Variables	Model 1					Model 2					Collinearity Statistics	
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
	B	Std. Error	β			B	Std. Error	β			Tolerance	VIF
(Constant)	4.082	0.124		32.886	0.000	3.542	0.169		20.922	0.000		
IWF	0.261	0.023	0.442	11.433	0.000	0.241	0.025	0.409	9.779	0.000	0.761	1.313
IR	-0.076	0.029	-0.127	-2.657	0.008	-0.082	0.028	-0.137	-2.936	0.004	0.614	1.628
CD	-0.084	0.030	-0.138	-2.795	0.005	-0.100	0.029	-0.164	-3.385	0.001	0.566	1.766
UA	-0.069	0.027	-0.118	-2.571	0.010	-0.053	0.026	-0.091	-2.046	0.041	0.677	1.478
WFC	-0.107	0.029	-0.172	-3.726	0.000	-0.078	0.028	-0.125	-2.783	0.006	0.662	1.511
SE						0.136	0.035	0.164	3.876	0.000	0.745	1.343
IWF×SE						0.080	0.027	0.121	3.006	0.003	0.820	1.220
IR×SE						-0.035	0.038	-0.049	-0.934	0.351	0.485	2.064
CD×SE						0.104	0.039	0.138	2.671	0.008	0.500	2.001
UA×SE						-0.039	0.038	-0.051	-1.012	0.312	0.520	1.922
WFC×SE						-0.095	0.040	-0.118	-2.366	0.018	0.534	1.872
R	.613*					.664*						
R Square	0.376					0.440						
Adjusted R Square	0.368					0.426						
F	51.398***					30.124***						

5. Suggested Strategies

Based on the above analysis, we propose the following recommendations for both university lecturers and institutions in Shaanxi.

5.1. Recommendations for Lecturers

(1) In-depth Recognition of Work Stressors:

Lecturers are deemed most effective when they thoroughly understand their individual stress sources, conducting a detailed analysis of stressors related to teaching, research, and promotion assessments. By precisely identifying the root causes, lecturers can formulate targeted coping strategies, thereby enhancing their effectiveness.

(2) Precision in Career Planning:

Develop meticulous and feasible career plans, covering aspects such as promotion, research plans, and teaching objectives. This not only aids in more rational time and energy allocation but also instills confidence in lecturers about their future career development, consequently alleviating work-related stress [19].

(3) Cultivate Comprehensive Self-Efficacy:

Boost confidence in both professional and emotional capacities, fostering comprehensive self-efficacy. This encompasses not only professional competence but also emotional resilience, empowering lecturers to confront challenges with greater assurance and enhancing psychological resilience [20].

(4) Learn Comprehensive Stress Management Techniques:

Lecturers are encouraged to acquire and adeptly apply various comprehensive stress management techniques, including time management, emotional regulation, and communication skills [21]. Mastery of these skills is deemed most appropriate for fostering a composed response to high-pressure environments, ultimately contributing to improved work efficiency.

5.2. Recommendations for the Institution

(1) Provide Professional Career Development Support:

Establish a professional career development support system, offering guidance for lecturers to plan personal and career objectives, along with providing training and support for promotion, research, and teaching. This aids in creating a holistic career development path for lecturers [22].

(2) Enhance Overall Working Environment:

The institution should comprehensively improve the working environment, encompassing the provision of adequate teaching resources, laboratory facilities, and research support [23]. Additionally, attention to lecturers' work-life balance is crucial. A holistic and positive working environment is paramount for reducing lecturers' work-related stress.

(3) Implement Flexible Work Policies:

Implement flexible work policies, such as flexible working hours and remote work, to better cater to the individual needs of lecturers [24]. This contributes to increased job satisfaction and overall well-being among lecturers.

(4) Establish a Scientific Performance Evaluation Mechanism:

Develop a scientifically sound performance evaluation mechanism that serves as both an incentive for lecturers to enhance their performance and a means to alleviate unnecessary work-related stress [25]. This necessitates a performance evaluation system characterized by scientific rigour and fairness, motivating lecturers to invest more in their work.

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References

- [1] Wang Rong, Zhang Feiping. Analysis of stress sources and coping strategies for college teachers under the form of education reform [J]. Education and Teaching Forum, 2019 (51): 3.W.-K. Chen, Linear Networks and Systems (Book style). Belmont, CA: Wadsworth, 1993, pp. 123–135.
- [2] Hao Fang. Analysis of the current situation of college teachers' stress based on big data visualization technology [J]. Modern Commerce and Industry, 2018, 39(13):2. DOI: CNKI: SUN: XDSM.0.2018-13-041.
- [3] Hu Guohua, Zhu Yongjun, Liu Chunhui, et al. The structural relationship between work stress, psychological capital and occupational happiness of college teachers [J]. China Adult Education, 2019(21).
- [4] Lin Yanping, Zhang Jianwei. Research on Laozi Thought and Youth Psychological Pressure Release - Taking Young Teachers from Some Colleges and Universities in Guangdong as an Example [J]. Jiangnan Forum, 2018(12):9. DOI: 10.3969/j.issn.1003-854X.2018.12.021.
- [5] Cao Yan. Research on the relationship between college teachers' stress perception and teaching innovation behavior [J]. Journal of Jiangsu Vocational and Technical College of Economics and Trade, 2021, 000(006):71-73.
- [6] Hernández P M, Salanova M, Peiró J M. Job demands, job resources and individual innovation at work: Going beyond Karasek's model? [J]. Psicothema, 2007, 19(4): 621-626.
- [7] Yi Lingfeng, Li Teng, Lin Qin, et al. Entrepreneurial leadership, challenging pressure and employee innovative behavior - the moderating role of team identification [J]. Journal of East China Normal University: Philosophy and Social Sciences Edition, 2023, 55 (3):143-154.
- [8] Bandura A. Much ado over a faulty conception of perceived self-efficacy grounded in faulty experimentation [J]. Journal of Social and Clinical Psychology, 2007, 26(6): 641-658.
- [9] Wang Min. The impact of college teachers' self-efficacy on occupational burnout [J]. Bohai Rim Economic, 2019 (1): 1. DOI: CNKI:SUN:HBHJ.0.2019-01-116.
- [10] Gao Jingzhen. Research on factors affecting career commitment of civil servants based on JDR model [D]. University of Electronic Science and Technology of China, 2019.
- [11] Lu Qingqing, Wu Hanqing. "Steering Wheel" Model: A path to effectively improve middle school teachers' self-efficacy [J]. Educational Theory and Practice, 2018, 38(29):4. DOI: CNKI: SUN: JYLL.0.2018 -29-010.
- [12] Zhao Jie. Investigation and research on the current situation of self-efficacy of higher vocational teachers in the context of moral education [J]. Science Popular: Smart Education, 2021(10):2.
- [13] Xu Jianhua, Wu Zixuan, Lu Jinyi. Application of normative questionnaire survey methods in library science research—taking the study of librarian stereotypes as an example [J]. Library and Information Service, 2019, 63(1): 6. DOI: 10.13266/j.issn.0252-3116.2019.01.020.
- [14] Tan Yuejin. Quantitative analysis methods [M]. China Renmin University Press, 2006.
- [15] Qi Laibin, Zhang Yihui, Zheng Youzeng, et al. Reliability and validity analysis of questionnaire [J]. Contemporary Educational Science, 2003(22):2. DOI: CNKI: SUN: SDJK. 0.2003-22-023.
- [16] Su Xue, Li Zhanjiang, Long Jing, et al. Reliability and validity analysis of the Chinese version of Whiteley Index [J]. Journal of Capital Medical University, 2019, 40(5):6. DOI: 10.3969/j.issn.1006-7795.2019.05.002.
- [17] Wen. Reliability and validity analysis of the occupational happiness of new generation employees - Taking H Company as an example [J]. Shanghai Business, 2022(9):229-231.
- [18] Wang Huiwen, Meng Jie. Predictive modeling method of multiple linear regression [J]. Journal of Beihang University, 2007, 33(4):5. DOI: 10.3969/j.issn.1001-5965.2007.04.028. C. J. Kaufman, Rocky Mountain Research Lab., Boulder, CO, private communication, May 1995.
- [19] Cao Xiujuan, Liu Weidong. The connotation, significance and path guidance of the development of college teachers' teaching [J]. Modern Economic Information,
- [20] Wang Ru. Professional development of college teachers in the information environment [J]. Journal of Guangxi Radio and Television University, 2018, 29(2):4.
- [21] Zhang Linyu. Application of group counseling in reducing stress of college teachers [J]. Caizhi, 2018(11):1. DOI: CNKI: SUN: CAIZ.0.2018-11-040.G.
- [22] Su Yanqin. Analysis of psychological stress and adjustment strategies of young college teachers [J]. Quality Life, 2022 (21): 0163-0165.

- [23] Yang Yuchen. Role pressure and relief of highly educated female teachers in colleges and universities [J]. 2021(2013-2): 110-113.
- [24] Chu Pengpeng, Meng Weixuan, Wang Peng, et al. The relationship between work stress and organizational commitment of college teachers: the mediating role of job burnout and job satisfaction [C]//Abstract Collection of the 22nd National Psychology Academic Conference. 2019 .
- [25] Lin Lin. Research on work stress of college teachers based on management psychology [J]. Youth, 2019.