



Research on the Influencing Factors of Young Female Teachers' Burnout and Their Role Mechanisms in the Context of Internet Development

Based on Information Technology Measurements and Beijing's "Double First-Class" Universities

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Abstract. With the advancement of newer technological information technologies and the use of the Internet, traditional objective anxiety assessment criteria are no longer able to accurately account for an individual's level of anxiety based on a specific situation. This study focuses on the mechanism of the role of burnout among high-achievement-oriented young female teachers and based on the burnout theory and the Job Demand-Resource model (JD-R model), it explores how job expansion pressure and female role stress influence burnout through high-achievement orientation, revealing its dual mediating role. The study collected a sample of 365 young female teachers from "double first-class" universities in Beijing through a questionnaire survey, and the combination of structural equation modeling and Bootstrap method test found that high-achievement orientation played a fully mediating role between job expansion pressure and burnout, while partially mediated between female role stress and burnout. This study provides theoretical innovations and targeted psychological intervention programs to alleviate burnout among young female teachers in higher education.

Keywords: Burnout; young female teachers; Job Expansion Stress; Female Role Stress; High Achievement Orientation; Internet; Quantifying information

1 Introduction

Young female faculty in China's elite universities face escalating demands across teaching, research, and administrative roles, exacerbating risks of burnout. Defined as a psychological state of emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach, 1981) [1], burnout not only threatens teachers' well-being but also undermines educational quality. While prior studies emphasize organizational pressures (e.g., excessive administrative tasks) and gender-specific stressors (e.g., work-family conflicts) as key drivers (Liu, 2013; Ren, 2021) [2][3], limited attention

has been paid to internal psychological mechanisms, particularly the role of high achievement orientation.

This gap is critical given the dual pressures faced by young female academics: externally, the “non-promotion and leave” system intensifies competition for career advancement (Huo, 2024) [4]; internally, high achievement orientation, though motivating excellence, may amplify stress through self-imposed perfectionism and peer comparisons (Brandstätter et al., 2018)[5]. Existing research predominantly examines general teacher populations, neglecting how achievement-driven traits interact with gendered stressors in burnout development.

To address this, we integrate the Job Demands-Resources (JD-R) model [6] with burnout theory, proposing a mediation framework where high achievement orientation differentially mediates the effects of job expansion pressure and female role stress on burnout. This study not only advances theoretical understanding of gender-specific burnout mechanisms but also offers actionable strategies for institutional support.

2 Literature Review and Research Hypotheses

2.1 Job Expansion Pressure, Female Role Pressure and Burnout

Job expansion pressure (e.g., workload overload) and female role stress (e.g., work-family conflicts) jointly contribute to burnout among young female faculty. The JD-R model attributes burnout to chronic imbalances between job demands (e.g., role ambiguity) and resources (e.g., autonomy), where prolonged stressors deplete psychological reserves (Crawford et al., 2010; Wei & Dapat, 2024) [7][8]. Empirical evidence confirms these pathways, leading to the following hypotheses:

H1: Job expansion stress has a positive effect on burnout

H2: Female role stress has a positive effect on burnout

2.2 The Mediating Role of High Achievement Orientation

High achievement orientation, as a psychological drive for excellence, exerts dual effects on burnout through two pathways. First, it amplifies environmental stressors: individuals with high achievement goals experience heightened anxiety due to fear of failure (Hong & S.P., 2023) [9] and cognitive dissonance when facing setbacks, especially in competitive academic environments. Second, scarce job resources (e.g., lack of autonomy) may convert self-imposed pressure into chronic stress (Xu, 2019), while peer comparisons further exacerbate emotional exhaustion. Although such orientation enhances performance (Brandstätter et al., 2018), its overlap with Type A personality traits (e.g., perfectionism) increases burnout vulnerability (Hong & S.P., 2023). Thus, we hypothesize:

H3: High achievement orientation has a positive effect on burnout

H4: High achievement orientation mediates the relationship between job expansion pressure and burnout

H5: High achievement orientation mediates between female role stress and burnout

3 Research Design

3.1 Quantitative Research Design

This study adopts path analysis with mediation model to test the hypothesized relationship of the influence mechanism of burnout through structural equation modeling. Based on the theoretical framework constructed in the previous qualitative research (the three-dimensional model of women's role pressure, job expansion pressure, and high-achievement orientation), a validation tool with measurement validity was designed to carry out a large-sample empirical study. The structural equation model was constructed to test the mediating effect, with the following equations:

Direct effects model

Direct effect of the independent variable (stressor) on the dependent variable (burnout):

$$\text{Burnout} = \beta_0 + \beta_1 \cdot \text{Job Expansion Stress} + \beta_2 \cdot \text{Female Role Stress} + \epsilon \dots \quad (1)$$

where β_1 and β_2 represent the direct effects of Job Expansion Stress and Female Role Stress on burnout, respectively, and ϵ is the error term.

Mediated effects model

Through the mediating effect of high achievement orientation (M), the path equation is decomposed as:

a. The effect of the independent variable on the mediating variable:

$$M = \alpha_0 + \alpha_1 \cdot \text{Job Expansion Stress} + \alpha_2 \cdot \text{Female Role Stress} + \epsilon_m \quad (2)$$

b. Effect of mediating variables on the dependent variable:

$$\text{Burnout} = \gamma_0 + \gamma_1 \cdot M + \gamma_2 \cdot \text{Job Expansion Stress} + \gamma_3 \cdot \text{Female Role Stress} + \epsilon_b \quad (3)$$

Bootstrap mediation effect test

Bootstrap method was used to estimate confidence intervals (CI) for indirect effects:

$$\text{Indirect Effect} = \frac{1}{B} \sum_{b=1}^B (\alpha_1^{(b)} \cdot \gamma_1^{(b)}) \quad (4)$$

where B=5000 is the number of repeated samples, and the mediation effect is significant if the 95% CI does not contain zero.

3.2 Measurement Tool Development

Scale Design.

In this paper, the measurement scale of the factors affecting burnout of young female college teachers is formed on the basis of the rooted theory, and the scale is initially set up based on the connotation of each conceptual dimension, tracing the corresponding open-ended coding and interview data to distill the relevant questions, and drawing on the relevant mature scales to prepare. The development of the scale was based on semi-

structured interviews with 32 young female teachers, and Nvivo11 was used for the three-level coding, and four core categories were finally extracted: female role pressure, work expansion pressure, high-achievement orientation, and burnout. The options were further refined through repeated refinement of the scale content under the guidance of experts in related research fields and the measurement of scale reliability and validity using a small-scale distribution questionnaire. In terms of scale purification, this paper adopts exploratory factor analysis to delete the scale items. The final scales included four dimensions: female role stress (7 items, adapted from Role Stress Scale [10]), job expansion stress (8 items, rooted in theoretical analysis and Challenge-Obstacle Stress Scale[11]), high achievement orientation (9 items, partially from AMS Scale[5]), and burnout (6 items, MBI-GS Scale[12]). All items showed good reliability and validity (Cronbach's $\alpha > 0.85$) after purification.

Reliability Test.

In this study, SPSS25 and AMOS27 were used to conduct reliability and validity tests, and the final results showed that the Cronbach's alpha and combined reliability coefficients (CR) for the Female Role Stress, Job Expansion Stress, High Achievement Orientation, and Burnout scales ranged from 0.85 to 0.96, which indicates that the dimensions of the measurement model have good reliability. The average extracted variance (AVE) of each dimension is more than 0.5, and the AVE value of each structure is greater than its correlation coefficient, which meets the test criteria for discriminant validity. These results indicate that the scale has good validity in all dimensions, and the specific data are shown in Tables 1 and 2.

Table 1. Results of the reliability test

latent variable	CR	AVE	Cronbach's alpha
Pressure on women's roles	0.912	0.597	0.911
Work Expansion Stress	0.942	0.671	0.948
high achievement orientation	0.957	0.711	0.942
professional boredom	0.875	0.542	0.874

Table 2. Correlation matrix of potential variables

	AVE	Work Ex- pansion Stress	Pressure on women's roles	high achieve- ment orientation	profes- sional boredom
Work Expansion Stress	0.597	0.773***			
Pressure on women's roles	0.671	0.561***	0.819***		
high achievement orien- tation	0.711	0.725***	0.487***	0.843***	
professional boredom	0.542	0.576***	0.506***	0.647***	0.736***

Note: *** indicates at the significant statistical level. 0.1% Numbers on the diagonal are AVE Root Mean Square

Sample Data Characteristics.

Data were collected via questionnaires from young female faculty at Beijing's Double First-Class universities using snowball and convenience sampling, combining online and offline distribution. Of 381 distributed questionnaires, 365 were valid (95.8% response rate). The sample comprised predominantly early-career faculty: 69.3% aged 26-35, 58.8% with ≤ 6 years of experience. Disciplines were balanced (47.3% STEM; 52.7% humanities), and 47.6% held lecturer positions.

4 Results and Analysis

4.1 Overall Model Fitting

Combining the views of various scholars[13] [14], when the chi-square degrees of freedom ratio is greater than 1 and 3, and the coefficients of GFI, IFI, CFI, etc. are more than 0.9 (the minimum is not less than 0.8), and the RMSEA is less than 0.05 (the maximum is not more than 0.8), the fit between the hypothesized model and the actual sample data can be considered as good. The model exhibited excellent fit indices ($\chi^2/df=1.991$, RMSEA=0.052, CFI=0.950), aligning with recommended thresholds.

4.2 Standardized Path Analysis

Table 3. Standardized coefficients and hypothesis testing results

Structural equation paths	path factor	P	hypothesis testing	in the end
Work expansion pressure $\rightarrow$ burnout	0.131	0.047	H1	be in favor of
Female role stress $\rightarrow$ burnout	0.214	***	H2	be in favor of
High Achievement Orientation $\rightarrow$ Burnout	0.448	***	H3	be in favor of

Note: *** and ** indicate significance at the 0.1% and 1% statistical levels, respectively.

According to the data in Table 3, it can be seen that the standardized path coefficient between job expansion stress and burnout is positive and its significance level reaches $p < 0.05$, which indicates that hypothesis H1 is valid. The standardized path coefficient between female role stress, high achievement orientation and burnout is positive and it reaches the significance level of $p < 0.001$, which indicates that hypotheses H2 and H3 are valid.

4.3 Tests for the Mediating Effect of High Achievement Orientation

Bootstrap tests ($N=5000$) confirmed significant total and indirect effects of job expansion stress on burnout ($\beta=0.295$, 95% CI [0.189, 0.412], $p < 0.001$), with high achievement orientation fully mediating this relationship (H4 supported). For female role stress, while direct effects remained significant ($\beta=0.214$, $p < 0.001$), partial mediation

through high achievement orientation was observed (indirect $\beta=0.052$, 95% CI [0.002, 0.128], $p<0.01$), supporting H5(Table 4).

Table 4. Bootstrap method mediation effect test

trails	effect (scien- tific phe- nomenon)	SE	S.E.	P	95% CI	
					LB	UB
Job Expansion Stress→ High Achievement Orientation→ Burnout	aggregate effect	0.426	0.064	**	0.298	0.546
	direct effect	0.131	0.076	0.070	- 0.011	0.288
	indirect ef- fect	0.295	0.057	***	0.189	0.412
Female role stress → high achievement orientation → burn- out	aggregate effect	0.266	0.072	**	0.124	0.407
	direct effect	0.214	0.072	**	0.077	0.357
	indirect ef- fect	0.052	0.032	**	0.002	0.128

Note: *** and ** indicate significance at the 0.1% and 1% statistical levels, respectively.

4.4 Robustness Test

To ensure the robustness of mediation effects, alternative regression models were estimated by progressively adding control variables (age, teaching experience), independent variables (job expansion stress, female role stress), and the mediator (high achievement orientation). Results showed:

The direct effect of job expansion stress on burnout decreased significantly from $\beta=0.448$ (Model 4) to $\beta=0.21$ (Model 5) after including high achievement orientation ($\Delta R^2=0.103$, $p<0.001$), confirming full mediation; For female role stress, the direct effect remained significant ($\beta=0.244$, $p<0.001$) but weakened compared to the baseline model ($\beta=0.455$), supporting partial mediation. All models demonstrated consistent explanatory power ($R^2>0.25$) and significance levels ($p<0.01$), aligning with SEM findings.

As can be seen from the results, both female role pressure and job expansion pressure have a significant positive effect on burnout, and the regression coefficients of the two decrease after the inclusion of high achievement orientation, indicating that the mediating effect of high achievement orientation is significant, and the conclusion is consistent with the above.

5 Conclusion

This study systematically examined the dual mediating role of high achievement orientation in the relationship between job stressors (job expansion pressure, female role

stress) and burnout among young female faculty in Beijing's "Double First-Class" universities. Key findings include: Job expansion pressure and female role stress significantly exacerbated burnout; High achievement orientation not only directly intensified burnout but also fully mediated job expansion pressure and partially mediated female role stress, revealing its "double-edged sword" effect.

To mitigate burnout, universities should prioritize: Reducing Administrative Burdens: Streamline redundant tasks (e.g., performance reviews, trivial paperwork) to alleviate job expansion pressure; Gender-Sensitive Support: Implement flexible work policies, on-campus childcare, and mentorship programs to address role conflicts; Healthy Achievement Culture: Encourage realistic goal-setting, recognize diverse contributions, and provide psychological counseling to counter perfectionism.

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