

An Empirical Study on the Impact Mechanism of Job Resources on Academic Librarians' Work Engagement: Postprint

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Abstract

[Purpose/Significance] This study explores the impact and mechanism of job resources on university librarians' work engagement, aiming to provide references for human resource management implementation and work engagement enhancement in university libraries. [Method/Process] A total of 358 librarians from university libraries in Hunan Province were selected as research subjects to examine the predictive effect of job resources on university librarians' work engagement and the mediating role of psychological capital and organizational commitment between them. [Results/Conclusion] The results of descriptive statistics and difference analysis, correlation analysis, and stepwise regression analysis indicate that significant gender differences exist in organizational commitment scale scores among university librarians, with male librarians scoring significantly higher than female librarians; however, no significant gender differences are found in other scale scores. No significant differences are observed in any scale scores across marital status, age, education level, position, or professional title. All pairwise correlations among university librarians' job resources, psychological capital, organizational commitment, and work engagement reach statistical significance. Job resources exert a positive predictive effect on university librarians' work engagement, while psychological capital and organizational commitment partially mediate the relationship between job resources and university librarians' work engagement. Enriching job resources for university librarians, enhancing their perceived organizational support, and strengthening their psychological capital and organizational commitment constitute effective pathways to promote improvements in university librarians' work engagement.

Full Text

Preamble

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An Empirical Study on the Influence Mechanism of Work Resources on University Librarians' Engagement

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Abstract

[Purpose/Significance] This study explores the influence and mechanism of work resources on university librarians' engagement, aiming to provide references for human resource management implementation and engagement promotion in university libraries. **[Method/Process]** A total of 358 librarians from university libraries in Hunan were selected as research subjects to investigate the predictive effect of work resources on engagement and the mediating roles of psychological capital and organizational commitment. **[Result/Conclusion]** Descriptive statistics, difference analysis, correlation analysis, and stepwise regression analysis revealed significant gender differences in organizational commitment scores, with male librarians scoring significantly higher than females, while no significant differences were found in other scores across genders. No significant differences were observed across marital status, age, education, position, or professional title. All pairwise correlations among work resources, psychological capital, organizational commitment, and engagement reached statistical significance. Work resources positively predicted engagement, with psychological capital and organizational commitment partially mediating this relationship. Enriching work resources, enhancing perceived organizational support, and strengthening psychological capital and organizational commitment are effective strategies for promoting university librarians' engagement.

Classification Number: G251

Keywords: university librarians; work resources; engagement; influence mechanism; empirical study

2 Literature Review and Hypothesis Development

2.1 The Influence of Work Resources on Engagement

Work resources, a concept derived from Conservation of Resources theory, refer to physical, psychological, social, or organizational resources related to work that facilitate goal achievement, reduce job demands and associated psycholog-

ical and physical effort, and promote personal growth, learning, and development [2]. A. B. Bakker et al. categorized work resources into three dimensions: job autonomy, social support, and developmental opportunities [3], while Duan Lusheng identified them as colleague support, supervisor support, job independence, and job control [4]. Engagement represents the degree to which organizational members invest themselves physically, cognitively, and emotionally in their work roles [5], comprising three dimensions: vigor, dedication, and absorption [6]. Vigor refers to high levels of energy and resilience, willingness to invest effort, and persistence in the face of difficulties. Dedication involves strong work investment accompanied by enthusiasm, a sense of significance, pride, and inspiration. Absorption denotes a state of complete immersion in work, characterized by time passing quickly and difficulty detaching from work tasks.

Research has consistently demonstrated that lacking work resources predicts burnout, while available resources predict engagement [7]. Bakker et al. found that work resources foster engagement [3], and studies among music teachers revealed that those with high autonomy, social support, and supervisory guidance experienced greater work engagement [8]. Hallberg et al. reported that work resources showed stronger predictive power for engagement than job demands [9]. Chinese scholars have similarly confirmed that work resources positively predict all dimensions of engagement, with resource deficiency being a primary cause of disengagement [10-13].

Based on these findings, we propose:

Hypothesis 1: Work resources are positively correlated with and positively predict university librarians' engagement.

2.2 The Role of Psychological Capital Between Work Resources and Engagement

Psychological capital, a core concept in positive psychology and organizational behavior, represents individuals' positive psychological capacities that can be developed to achieve competitive advantage beyond human and social capital. It comprises four components: self-efficacy, hope, optimism, and resilience [14]. For university librarians, psychological capital constitutes a set of positive psychological abilities that positively influence work performance [15].

Research indicates that perceived organizational support enhances psychological capital [16-17], while psychological capital negatively predicts burnout and positively correlates with engagement [18-21]. Luthans et al. found that psychological capital mediates the relationship between supportive organizational climate and employee performance [22], and Jiang et al. demonstrated its partial mediating role between work resources and engagement [13]. Liang's research similarly showed that knowledge workers' psychological capital partially mediated the relationship between perceived organizational support and work engagement [23].

Based on these conclusions, we propose:

Hypothesis 2: Work resources are positively correlated with and positively predict university librarians' psychological capital.

Hypothesis 3: Psychological capital is positively correlated with and positively predicts university librarians' engagement.

Hypothesis 4: Psychological capital partially mediates the relationship between work resources and engagement.

2.3 The Role of Organizational Commitment Between Work Resources and Engagement

Organizational commitment, first examined by sociologist H. S. Becker [24], represents an individual's emotional loyalty to an organization and intention to remain after weighing costs and benefits [25]. For university librarians, it reflects strong identification with the library's goals, values, and plans, willingness to exert extra effort for the library's benefit, and desire to maintain membership [27]. Meyer and Allen's three-component model—comprising affective commitment (emotional attachment), continuance commitment (perceived costs of leaving), and normative commitment (felt obligation to stay)—is widely recognized [28].

Empirical research has established positive relationships between perceived organizational support and commitment [29-30], with work characteristics predicting affective and normative commitment [27]. Studies also show that organizational commitment positively correlates with knowledge workers' engagement [31] and mediates relationships between psychological capital and engagement [32], as well as between supportive HR practices and engagement [33] and between perceived organizational support and engagement [34].

Based on these findings, we propose:

Hypothesis 5: Work resources are positively correlated with and positively predict university librarians' organizational commitment.

Hypothesis 6: Organizational commitment is positively correlated with and positively predicts university librarians' engagement.

Hypothesis 7: Organizational commitment partially mediates the relationship between work resources and engagement.

The research framework is illustrated in [Figure 1: see original paper].

3 Research Methods

3.1 Participants

Using convenience sampling, 430 questionnaires were distributed to librarians in Hunan university libraries, yielding 404 responses (94% response rate). Valid questionnaires totaled 358 (88.6% validity rate). The sample comprised 24% male and 76% female librarians; 13.1% unmarried and 86.9% married; age distribution was 5% aged 25 or younger, 21.3% aged 26-35, 33.5% aged 36-45, and 40.2% aged 46 or older. Educational backgrounds included 1.3% high school or below, 13.7% junior college, 60.1% bachelor's degree, and 24.9% master's degree

or higher. Professional titles included 27.7% assistant librarians, 44.4% librarians or intermediate titles, 18.4% associate research librarians, 1.4% research librarians, and 8.1% other. Positions included 81% frontline librarians, 15.4% department heads, and 3.6% library leaders.

3.2 Instruments

Work Resources Scale: We adopted Duan Lusheng's widely used scale [4], measuring colleague support, supervisor support, job independence, and job control across 15 items (e.g., "I can ask colleagues for help when needed") using a 5-point Likert scale. Higher scores indicate greater work resources. The scale demonstrated good reliability ($\alpha = 0.811$) and validity in previous research [4]. In this study, confirmatory factor analysis showed satisfactory fit indices ($\chi^2/df = 4.46$, RMSEA = 0.09, GFI = 0.88, CFI = 0.92, TLI = 0.89, NFI = 0.90). Internal consistency coefficients were 0.75 for colleague support, 0.80 for supervisor support, 0.81 for job independence, 0.88 for job control, and 0.94 for the total scale.

Engagement Scale: We used the Utrecht Work Engagement Scale (UWES) developed by W. B. Schaufeli and M. Salanova and revised by Zhang Yiwen and Gan Yiqun for the Chinese context [35]. The 9-item scale measures three dimensions: vigor, dedication, and absorption (e.g., "At my work, I feel bursting with energy") using a 5-point Likert scale. The Chinese version has demonstrated good reliability and validity, with Cronbach's α coefficients of 0.767 (vigor), 0.735 (dedication), and 0.753 (absorption) [35]. Our confirmatory factor analysis yielded satisfactory fit ($\chi^2/df = 3.92$, RMSEA = 0.09, CFI = 0.98, GFI = 0.95, TLI = 0.97, NFI = 0.97). Internal consistency coefficients were 0.90 (vigor), 0.89 (dedication), 0.89 (absorption), and 0.95 for the total scale.

Psychological Capital Scale: We used the scale developed by F. Luthans et al., translated and revised by Li Chaoping of Renmin University. The 24-item scale comprises four dimensions: self-efficacy, hope, optimism, and resilience (e.g., "I believe I can analyze long-term problems and find solutions") using a 5-point Likert scale. The scale has been widely adopted and validated [36]. Our confirmatory factor analysis showed acceptable fit ($\chi^2/df = 3.64$, RMSEA = 0.08, CFI = 0.91, GFI = 0.84, TLI = 0.90, NFI = 0.88). Internal consistency coefficients were 0.91 (self-efficacy), 0.90 (hope), 0.76 (resilience), 0.65 (optimism), and 0.94 for the total scale.

Organizational Commitment Scale: We adopted Meyer and Allen's widely used scale [28], measuring affective and continuance commitment across 12 items (e.g., "Even if I wanted to leave my organization, it would be difficult for me to leave now") using a 5-point Likert scale. The scale has demonstrated good reliability and validity [37]. Our confirmatory factor analysis showed satisfactory fit ($\chi^2/df = 3.37$, RMSEA = 0.08, CFI = 0.97, GFI = 0.93, TLI = 0.95, NFI = 0.95). Internal consistency coefficients were 0.89 (continuance commitment), 0.94 (affective commitment), and 0.89 for the total scale.

3.3 Data Processing and Testing

We used SPSS 21.0 and AMOS 21.0 for statistical analysis. To address potential common method bias from self-reported data, we followed Zhou Hao and Long Lirong's recommended procedure [38]. Confirmatory factor analysis loading all items onto a single latent factor showed poor model fit ($\chi^2/df = 4.77$, RMSEA = 0.10, CFI = 0.65, GFI = 0.44, TLI = 0.63, NFI = 0.59), indicating that common method bias was not a serious concern.

4 Results

4.1 Demographic Differences in Psychological Capital, Organizational Commitment, Work Resources, and Engagement

Descriptive statistics and difference tests revealed significant gender differences only in organizational commitment, with male librarians scoring significantly higher than females ($t = 2.01$, $p = 0.045$). No significant differences were found across gender for other variables. ANOVA results showed no significant differences across marital status, age, education, position, or professional title ($p > 0.05$). Detailed results are presented in through .

4.2 Correlation Analysis

Correlation analysis revealed significant positive relationships among all four variables. The correlation between psychological capital and organizational commitment was moderate ($r = 0.47$), while other inter-variable correlations ranged from 0.60 to 0.80. Results are shown in .

4.3 Mediating Role of Psychological Capital and Organizational Commitment

Using bias-corrected percentile bootstrap methods with 5,000 bootstrap samples to estimate 95% confidence intervals for mediation effects, we conducted comprehensive multiple mediation analysis. Results indicated that psychological capital and organizational commitment function as parallel mediators between work resources and engagement. We employed Hayes' SPSS macro [39], controlling for gender in the mediation analysis.

Mediation effect testing (see) showed: (1) Work resources significantly predicted engagement directly ($\beta = 0.76$, $p < 0.001$), supporting Hypothesis 1. (2) The 95% confidence interval for psychological capital's indirect effect was [0.23, 0.38], excluding zero, indicating significant partial mediation with an effect size of 39.91%. This supports Hypotheses 2, 3, and 4. (3) The 95% confidence interval for organizational commitment's indirect effect was [0.12, 0.24], excluding zero, indicating significant partial mediation with an effect size of 22.88%. (4) The total indirect effect was significant with a 95% confidence interval of [0.39, 0.57], accounting for 62.8% of the total effect. Hypotheses 5, 6, and 7 are supported. The specific effects are illustrated in [Figure 2: see original paper].

5 Discussion and Implications

5.1 Discussion

5.1.1 Relationship Between Work Resources and Engagement

Our findings demonstrate that work resources significantly and positively predict university librarians' engagement. When librarians experience strong autonomy and independence, coupled with substantial supervisor and colleague support, they perceive organizational trust and the importance of their responsibilities, experience greater work value, clarify goals and approaches, ignite work passion, alleviate tension, reduce burnout, replenish work energy, and ultimately invest themselves more vigorously, actively, and attentively in their work.

5.1.2 Relationships Among Work Resources, Psychological Capital, and Organizational Commitment

Work resources significantly and positively predict both psychological capital and organizational commitment. Librarians with richer work resources exhibit stronger psychological capital and higher organizational commitment. This aligns with previous research [16, 17, 27, 29-31]. According to job characteristics theory, skill variety, task significance, autonomy, feedback, and task identity constitute job features that trigger three critical psychological states: experiencing meaningfulness, feeling responsibility, and understanding outcomes [40]. When university libraries provide supportive environments with autonomy and professional development opportunities, librarians' needs for respect, trust, and belonging are satisfied, enhancing self-efficacy, igniting career hope, and fostering optimism and resilience. Based on social exchange and reciprocity principles, organizational support precedes employee commitment. Work resources essentially represent the library's commitment to librarians. When this commitment fulfills librarians' expectations, they reciprocate with stronger identification, trust, loyalty, and dedication.

5.1.3 Relationships of Psychological Capital and Organizational Commitment with Engagement

Both psychological capital and organizational commitment significantly and positively predict engagement. Librarians with higher psychological capital and organizational commitment demonstrate greater engagement. High self-efficacy enhances motivation, optimism about the future, and resilience in facing difficulties, enabling librarians to perceive service value, crave success, and increase vigor and absorption. Strong organizational commitment deepens emotional attachment to the library, which translates into greater dedication, energy, and focus on work.

5.1.4 Mediating Mechanisms

Psychological capital and organizational commitment partially mediate the work resources-engagement relationship. Work resources not only directly influence engagement but also indirectly affect it through psychological capital and organizational commitment. Librarians with abundant work resources develop stronger self-efficacy, optimism, and resilience, and greater identification with

and loyalty to the library, leading to more active, enthusiastic, and focused work investment. This creates a virtuous cycle: high engagement strengthens organizational support, which further enhances psychological capital and commitment.

5.2 Implications

Our findings reveal that work resources directly and indirectly (via psychological capital and organizational commitment) influence engagement. Therefore, enhancing engagement requires enriching work resources and strengthening perceived organizational support. Current scores for work resources dimensions (supervisor support: 3.63, colleague support: 4.10, job independence: 4.02, job control: 3.73) indicate room for improvement. University libraries should provide rich, appropriate work resources, enhance organizational and personal support, increase job independence and autonomy, and reduce control. This will strengthen librarians' psychological capital and, through reciprocity, enhance their sense of responsibility and obligation to reciprocate with higher engagement, ultimately improving library performance and service quality.

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Author Contributions

Kang Chaoqun: Responsible for data collection and input, participated in partial data analysis, designed the overall research framework, and wrote the manuscript.

Yang Qing: Responsible for data analysis and partial manuscript revision.

Note: Figure translations are in progress. See original paper for figures.

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