ISSN 2723-6471

The Mediating Role of Psychological Ownership and Job Satisfaction in Human Resource Management Practices and Employee Loyalty: A Case Study of Sichuan University of Technology

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(Received: May 13, 2024; Revised: June 29, 2024; Accepted: July 15, 2024; Available online: July 16, 2024)

Abstract

The objective of this research is to examine the influence of human resource management practices on employee loyalty, with a focus on the mediating effects of psychological ownership and job satisfaction. This investigation involves the collection of survey data from 600 educators at Sichuan University of Technology, located in the western region of China, to serve as a case study. The hypotheses posited within the theoretical framework were evaluated through the application of Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings of this research indicate that efficacious human resource management practices not only directly augment employee loyalty but also substantially bolster employee loyalty through the enhancement of psychological ownership and the improvement of job satisfaction. This study corroborates the combined mediating role of psychological ownership and job satisfaction in the relationship between Human resource management practices and employee loyalty. This research offers novel perspectives for comprehending and addressing the issue of disparate resource allocation within Chinese higher education, considering the unique aspects of China's imbalanced educational resources. It furnishes critical insights for the enhanced management and motivation of faculty in higher educational institutions in the western regions, alongside pragmatic recommendations for educational policymakers and university administrators.

Keywords: Human Resource Management Practices, Employee Loyalty, Psychological Ownership, Job Satisfaction

1. Introduction

In contemporary society, talent is universally acknowledged as a pivotal component in fostering economic growth and propelling technological advancements. The presence of highly skilled human resources is indispensable for the sustained success and expansion of organizations. Higher education institutions, serving as bastions of knowledge dissemination and innovation, play an essential role in the societal advancement and development. Faculty members stand at the core of educational excellence and scholarly achievements, with their job satisfaction and allegiance being fundamental to the enduring vitality of higher education entities. Faculty loyalty transcends mere retention at their current institutions; it encompasses their eagerness to engage in pedagogical and research endeavors, thereby contributing to the institution's long-term development [1].

In China, the disparity in educational resource distribution is markedly pronounced, with economic and educational assets predominantly concentrated in the eastern coastal areas. Conversely, institutions of higher learning in the inland western regions exhibit significant disparities from their eastern counterparts in terms of resource allocation, talent attraction, and retention [2]. This dynamic results in the migration of educational resources from west to east, further compounding the challenges faced by western colleges and universities in faculty development. The increasing faculty turnover at higher education institutions in the inland western regions has emerged as a significant concern within the educational sector [3].

The Sichuan University of Technology, a comprehensive university situated in western China, grapples with issues of diminished employee loyalty and elevated turnover rates. Such challenges not only impact the institution's teaching quality and research caliber but also obstruct its long-term development and competitive edge. Hence, identifying and

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DOI: https://doi.org/10.47738/jads.v5i3.266

implementing effective strategies to enhance faculty loyalty is crucial for fostering the stable advancement of higher education institutions in the western regions and for the augmentation of teaching and research excellence [4].

The discipline of human resource management emerged within the domain of business management, initially concentrating on the strategic recruitment, development, and retention of employees to augment organizational efficacy. Gradually, the theoretical and practical applications of human resource management have extended beyond the corporate sphere to encompass various types of organizations, including higher education institutions. Recent scholarly inquiries have shifted focus towards the constructs of psychological ownership and job satisfaction, alongside their contributory effects on employee loyalty [5], [6], [7]. Psychological ownership, defined as an employee's innate sense of belonging and personal stake in their place of work, exhibits a robust correlation with job satisfaction and employee loyalty [8]. This concept is increasingly being scrutinized within the context of higher education, where a faculty member's feeling of attachment to their role is identified as a critical element in bolstering job satisfaction and loyalty [5]. Such a sense of psychological ownership can inspire faculty members to invest greater zeal and effort in their duties, thereby elevating their job performance and commitment to the institution [9].

While theoretical investigations into the interactions among these variables have been conducted, empirical research within the context of faculty members at Chinese universities remains notably sparse. Consequently, this study seeks to augment the existing body of literature by examining the influence of human resource management practices on faculty loyalty within Chinese higher educational institutions, utilizing a cohort of educators from the Sichuan University of Technology as a case study. This investigation delves not only into the direct effects of human resource management practices on faculty loyalty but also into the intricate mediating roles played by psychological ownership and job satisfaction. Its objective is to furnish strategic insights and recommendations for universities in the western regions grappling with the issue of talent attrition. Furthermore, this research aims to offer both theoretical and pragmatic support in addressing the challenges related to the unequal distribution of higher education resources across China, with a particular focus on mitigating faculty turnover in western universities [8], [10].

2. Theory and Hyphotheses Development

2.1. Human Resource Management Practices and Employee Loyalty

Human resource management Practices (HRP) encompass a comprehensive set of strategies and approaches employed by organizations to manage their workforce effectively. These practices aim to support the organization in achieving its strategic objectives by fostering the attraction, development, and retention of skilled employees, thereby enhancing overall organizational performance. Human resource management is multifaceted, involving not only the management and development of personnel but also the cultivation of organizational culture, optimization of organizational structures and workflows, and adherence to applicable legal and regulatory standards. Research conducted by [11], [12], elucidates that human resource management Practices predominantly encompass recruitment and selection (RS), training and development (TD), compensation and benefits (CB), performance appraisal (PA), employee empowerment (EE), and job design (JD).

Employee loyalty (LYT) is characterized by a profound allegiance and commitment of employees towards their employer or organization [13]. Manifested through identification with the organization's objectives, a readiness to exceed expectations in contributing to the organization, and a determination to stay with the organization despite challenges [14], employee loyalty encapsulates both behavioral and psychological facets Behaviorally, it is evidenced by reduced turnover rates and enhanced job performance, while psychologically, it is reflected in elevated job satisfaction and organizational commitment [1]. Meyer and Allen [15], propose that employee loyalty can be assessed through three dimensions: affective loyalty (AL), continuance loyalty (CL), and normative loyalty (NL). Affective loyalty gauges employees' emotional attachment and sense of belonging to the organization, continuance loyalty assesses the employees' perceived cost of leaving the organization, and normative loyalty evaluates employees' sense of obligation to remain with the organization from an ethical standpoint.

Research has demonstrated that human resource management practices, including recruitment and selection, training and development, performance management, and reward and incentive systems, play a pivotal role in fostering and sustaining employee loyalty. This body of work posits that human resource management practices contribute to

enhancing employee engagement at the workplace, which in turn, significantly improves behavioral outcomes such as loyalty. Furthermore, studies by Alfes et al. [16], Kehoe and Wright [17], Meyer and Allen [15] have indicated that the implementation of high-performance human resource management practices markedly elevates employee job satisfaction and organizational commitment, factors which are integral to promoting employee loyalty. Drawing upon the analysis and theoretical underpinnings presented in the aforementioned literature, this study articulates the following hypothesis:

H1: Human resource management practices exert a positive influence on employee loyalty.

2.2. Psychological Ownership and Its Mediating Role

Psychological ownership (PSY) encompasses an individual's psychological sensation of identification and belonging with a specific object or entity [5]. This phenomenon is intimately linked with the individual's self-concept, identity, and perceived control over their environment. Scholars such as Van Dyne and Pierce [18]. Avey et al. [8], Olckers and Enslin [19], Pierce et al. [5], contend that psychological ownership manifests through various dimensions, including self-efficacy (SE), self-identity (SI), sense of belonging (SB), and sense of responsibility (SR). The emergence of psychological ownership is attributed not merely to an individual's control over and familiarity with their role but also to their capacity to influence the work environment. In the realm of higher education, the psychological ownership felt by faculty members assumes critical importance, as it significantly impacts teaching quality, scholarly output, and student satisfaction.

Research conducted by Avey et al. [8] indicates that human resource management practices are acknowledged as a pivotal element in cultivating psychological ownership among employees. According to psychological ownership theory, employees cultivate a sense of "ownership" over their work when they perceive control over, comprehend, and are emotionally invested in their work environment. This sensation enhances employees' recognition of their work's value and significance, thereby augmenting their allegiance to the organization [5]. Drawing upon the theoretical and empirical evidence presented, we posit the following hypothesis:

H2: Human resource management practices exert a positive impact on employee loyalty via psychological ownership.

2.3. Job Satisfaction and Its Mediating Role

The concept of job satisfaction (JS), first introduced by Hoppock [20], is described as the fulfillment an individual derives from both the physical and psychological aspects of their job and the work environment. Collins and Clark [21], articulated job satisfaction as an individual's affective responses and attitudes toward their job, which may manifest as either positive or negative sentiments. Research by Harter et al. [22] and Siripipatthanakul et al. [23], has concluded that job satisfaction encompasses various dimensions, including pay satisfaction (PS), supervision satisfaction (SS), satisfaction with opportunities for promotion (SP), satisfaction with the work itself (SW), and employee relations satisfaction (ER). Within the realm of higher education, job satisfaction is intricately linked to faculty members' teaching quality, research productivity, and their influence on students. Alfes et al. [16], observed that faculty members who experience high levels of job satisfaction tend to exhibit superior performance in teaching and research and show a greater propensity to assume additional responsibilities within the academic community. Further, Kehoe and Wright [17], noted that an increase in teachers' satisfaction with their work environment significantly bolsters their commitment and loyalty to the institution, consequently reducing turnover rates.

According to Herzberg's Two-Factor Theory, job satisfaction arises not solely from the content of the job itself but is also significantly influenced by the work environment and human resource management practices. Employees who experience high levels of job satisfaction are more inclined to demonstrate loyalty toward their organization [15]. Empirical evidence provided by Alfes et al. [16], corroborates this by illustrating that optimized human resource management practices enhance employee job satisfaction, which, in turn, significantly bolsters employee loyalty. Drawing on the insights from the aforementioned theoretical and empirical research, we formulate the following hypothesis:

H3: Human resource management practices exert a positive impact on employee loyalty via job satisfaction.

2.4. The Joint Mediating Role of Psychological Ownership and Job Satisfaction

Human resource management practices encompass a suite of strategies and initiatives aimed at bolstering employee performance and satisfaction. These include effective recruitment and selection processes, employee training and development programs, performance appraisal systems, and equitable reward and incentive schemes. Such practices are posited to augment employees' psychological ownership of their roles [5], fostering a heightened sense of control, identification with, and engagement in their work [8]. Concurrently, job satisfaction emerges as a crucial precursor to employee loyalty, with higher levels of job satisfaction correlating with an increased propensity for employees to remain with an organization [8]. Research by Olckers and Enslin [19], Van Dyne and Pierce [18], suggests that a psychological sense of ownership not only amplifies job satisfaction and engagement but also directly contributes to bolstering employee loyalty. In light of the theoretical and empirical research presented, we advance the following hypothesis:

H4: Human resource management practices positively impact employee loyalty through the joint mediating roles of psychological ownership and job satisfaction.

3. Method

3.1. Research Design

This study used pure quantitative methods. Specifically, this is a cross-sectional survey design study based on the post positivist worldview hypothesis, with a focus on investigating the mediating role of psychological ownership and job satisfaction in human resource management practices and employee loyalty: a case study of Sichuan University of Technology.

3.2. Analysis Program

Guided by Henseler [24], advice and the study's emphasis on predictive explanation, this research adopted PLS-SEM as its analytical method. This decision was driven by the technique's aim to minimize prediction error, enhance the predictive relevance of outcomes, and assess the explanatory power (R^2 values) of dependent variables for inferring statistical significance and assessing the impact of path coefficients. The benefits of employing PLS-SEM are numerous, including its effectiveness in examining theoretical constructs through a predictive perspective, its capability to incorporate complexity by exploring extensions to existing theories, its aptitude for integrating complex estimates into the model, and its support for performing mediation analysis, as underscored by Hair et al. [25]. The examination of reflective measurement models, also known as measurement or structural models, was carried out using SmartPLS 4 software, in line with Hair et al. [26].

3.3. Participants

Sichuan University of Technology is a comprehensive institution located in China's western inland regions. Historically, it has faced the dual challenges of limited educational resources and significant attrition among distinguished faculty members [27]. As of December 31, 2023, Sichuan University of Technology has a total enrollment of 45,000 full-time students across 22 colleges, offering 76 undergraduate programs and 26 graduate majors. The institution employs 3,584 academic staff members, comprising 1,849 males (51.59%) and 1,735 females (48.41%). Faculty and staff are categorized according to their roles into two main groups: teaching and research, and administrative and service positions. Of these, 2,735 are in teaching and research roles, accounting for 76.31%, while 849 occupy administrative and service roles, representing 23.69%. This study focuses on the faculty of Sichuan University of Technology to thoroughly investigate the influence of human resource management practices on employee loyalty within universities in the western part of China, especially considering the imbalance in educational resources. It particularly emphasizes the mediating role of psychological ownership and job satisfaction, aiming to uncover viable human resource management strategies that could improve faculty loyalty and mitigate turnover.

3.4. Instrumentation

This study incorporated four variables, and the questionnaire contained 78 items, all based on maturity scales found in the literature. These items were translated and adapted to match the job characteristics of teachers in Chinese universities. Respondents were asked to report their average feelings at work using a 5-point Likert scale ranging from

1 (very mild) to 5 (very strong). The assessment of human resource management practices drew upon the scales of Collins and Smith [28], Sun et al. [29], Takeuchi et al. [30], featuring 24 items that evaluated aspects of human resource management, namely recruitment and selection, training and development, compensation and benefits, performance evaluation, employee empowerment, and job design as referenced by Aladwan et al. [11], Tej et al. [12]. For the dimension of employee loyalty, the study utilized the maturity scales of Meyer and Allen [15] and Homburg and Stock [31], to design the questionnaire, which included 18 items measuring three facets: affective commitment, continuance commitment, and normative commitment. Psychological ownership was measured through a 16-item scale adapted from the works of Avey et al. [8], Brown et al. [32], and Pierce et al. [33]. This study adopts the research methodologies of Avey et al. [8], Olckers and Enslin [19], and Pierce et al. [5], The scale assessed the psychological ownership of teachers at Sichuan University of Technology in terms of self-efficacy, self-identity, sense of belonging, and responsibility. Drawing on the analytical approaches presented in the works of Collins and Clark [21], and Harter et al. [22], from the literature review, job satisfaction was measured across five dimensions: Pay Satisfaction, Supervision Satisfaction, Satisfaction with Opportunities for Promotion, Satisfaction with Work Itself, and Employee Relations Satisfaction. This was accomplished through a 20-item scale adapted from the works of Evans and Davis [34], Mayes et al. [35]. Initially, the questionnaire underwent assessment through Input Output Control (IOC) and was revised based on feedback from three experts. Subsequently, a pilot test was conducted with 30 teachers from Sichuan University of Technology participating in the pre-testing phase. The questionnaire was fine-tuned based on the pilot test results to formulate the final version for this study.

3.5. Data Collection

For this study, an online survey comprising five sections was developed, covering demographic details, HRP, LYT, JS, and PSY. To ensure an adequate response ratio of at least five times the number of items, the survey incorporated 82 questions, necessitating a minimum of 410 responses. The survey was disseminated online from January 2024 to March 2024, yielding 600 valid responses out of 900 distributed questionnaires, resulting in a response rate of 66.7%. This surpassed the minimum requirement, furnishing a robust and reliable sample for analysis. The study employed SPSS software for the descriptive analysis of demographic data. Among the 600 participants, 261 (43.5%) were male and 339 (56.5%) were female. All respondents were salaried faculty members at Sichuan University of Technology, selected based on the premise that only salaried faculty possess the requisite perspective to offer valuable insights into their experiences.

4. Result

This study was designed to investigate the influence of human resource management practices on employee loyalty. The previously posited hypotheses were examined using SmartPLS 4. The conceptual framework, which posited the effect of human resource management practices on employee loyalty mediated by psychological ownership and job satisfaction, was affirmed as a valid explanation.

4.1. Measurement Models

In this study, we constructed a higher-order model featuring a reflective-reflective structure. Following this, a second-order model was formulated employing the repeated indicators approach for both the measurement model and the structural model assessment, as depicted in figure 1.

 ISSN 2723-6471

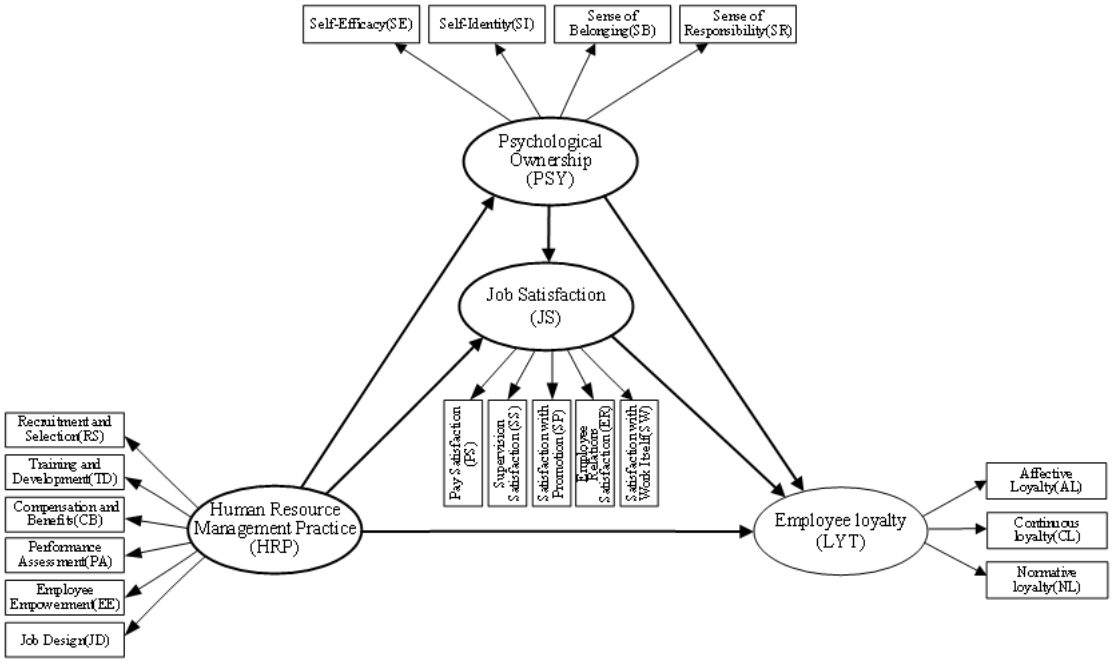

Figure 1. Proposed Model

Model measurements were conducted by evaluating the reliability and validity of the instrument. This assessment involved three metrics:

1) indicator loadings and internal consistency reliability
2) convergent validity
3) discriminant validity [25].

4.2. Indicator Loadings and Internal Consistency Reliability

The results of the analysis conducted using PLS-SEM in this study were utilized to examine the indicators, as detailed in table 1. According to Hair et al. [26], the loadings of the indicators should ideally exceed 0.7. In this study, the factor loadings ranged from 0.818 to 0.882, all above the 0.7 benchmark. Internal consistency reliability was assessed through Cronbach's alpha (α) and composite reliability (CR). Hair Jr et al. [25], suggest that the Cronbach's alpha coefficient must exceed 0.7 to indicate good reliability for a variable. Furthermore, the CR should be greater than 0.708. The values of Cronbach's alpha in this study varied between 0.840 and 0.915, and the CR values were between 0.903 and 0.934, both exceeding the 0.7 threshold. Table 1 provides the details of these measurement values.

Table 1. Validity and reliability of measurement model

Construct	Item	Loadings	VIF	α	CR	AVE
HRP	RS	0.835	2.357	0.915	0.934	0.703
	TD	0.841	2.434			
	CB	0.818	2.218			
	PA	0.840	2.394			
	EE	0.862	2.654			
	JD	0.831	2.363			
LYT	AL	0.863	1.934	0.840	0.903	0.757
	CL	0.882	2.071			
	NL	0.866	1.948			
PSY	SE	0.843	2.086	0.874	0.914	0.726
	SI	0.846	2.072			

	SB	0.860	2.196			
	SR	0.859	2.217			
JS	PS	0.879	2.737	0.912	0.934	0.740
	SS	0.866	2.623			
	SP	0.845	2.378			
	SW	0.857	2.514			
	ER	0.853	2.450			

4.3. Convergent Validity

Convergent validity aims to verify the strong association between indicators that measure the same construct. The Average Variance Extracted (AVE) signifies the degree to which the latent factors account for the variance in the observed variables, serving as a crucial measure of convergent validity. Convergent validity is confirmed when the AVE value is 0.500 or higher [25], [36]. The data presented in table 1 show that the AVE values in this study range from 0.703 to 0.757, surpassing the 0.500 threshold, which enables further analysis.

4.4. Discriminant validity

Discriminant validity measures the extent to which a construct differs from others. According to the Fornell–Larcker criterion, the square root of the AVE for each construct should exceed the construct's shared variance with any other construct in the model [25]. The results of the study, as presented in table 2, indicate that for every construct, the square root of the AVE is indeed greater than its shared variances with others, confirming discriminant validity.

Table 2. Fornell-Larcker Criterion

Construct	HRP	JS	LYT	PSY
HRP	0.838			
JS	0.542	0.860		
LYT	0.532	0.649	0.870	
PSY	0.615	0.647	0.642	0.852

Discriminant validity can be assessed by examining cross-loadings. Discriminant validity is achieved when a construct's loading value is higher than all its cross-loading values on other constructs [37]. Table 3 demonstrates that the indicator values of the outer loading for each construct (highlighted in bold) exceed the values of all their cross-loadings on other constructs, thus confirming discriminant validity.

Table 3. Cross-Loading Analysis

Construct	HRP	JS	LYT	PSY
RS	0.835	0.450	0.442	0.504
TD	0.841	0.447	0.456	0.494
CB	0.818	0.434	0.432	0.485
PA	0.840	0.475	0.456	0.529
EE	0.862	0.492	0.472	0.561
JD	0.831	0.425	0.412	0.518
SP	0.419	0.845	0.525	0.535
SW	0.439	0.857	0.562	0.539
ER	0.461	0.853	0.545	0.545
SS	0.474	0.866	0.569	0.549

PS	0.532	0.879	0.588	0.609
AL	0.432	0.550	0.863	0.557
CL	0.483	0.581	0.882	0.572
NL	0.471	0.564	0.866	0.546
SE	0.499	0.528	0.547	0.843
SI	0.524	0.564	0.542	0.846
SR	0.526	0.552	0.540	0.859
SB	0.546	0.560	0.556	0.860

Henseler et al. [38], introduced the Heterotrait-Monotrait ratio (HTMT) as a method to assess discriminant validity, stipulating that HTMT values must be below 0.90 to confirm discriminant validity. As shown in table 4, the HTMT values in this study ranged from 0.591 to 0.749, all below the 0.90 threshold. This indicates that discriminant validity has been successfully established between the constructs measured by reflection.

Table 4. HTMT

Construct	HRP	JS	LYT	PSY
HRP				
JS	0.591			
LYT	0.605	0.741		
PSY	0.687	0.723	0.749	

4.5. Collinearity Issue

In the model validation process, multicollinearity is typically assessed using the Variance Inflation Factor (VIF). An instrument is deemed suitable for further analysis if its VIF value is less than 3 for the inner model and less than 5 for the outer model [26]. Table 1 indicates that the VIF values for the outer model range from 1.934 to 2.737, all below the threshold of 5. Table 5 reveals that VIF values for the inner model range from 1.000 to 2.073, all below the threshold of 3. Consequently, in this study, covariance does not negatively affect the path coefficients within the structural model.

Table 5. Inner model collinearity statistics (VIF)

Construct	HRP	JS	LYT	PSY
HRP		1.610	1.708	1.000
JS			1.825	
LYT				
PSY		1.610	2.073	

4.6. Structural Model Relationship

This study employs the bootstrapping algorithm in PLS for calculating path coefficients (β) and t-statistics, testing the relationships among independent variables, mediating variables, and dependent variables. According to Hair et al. [26], to confirm a successful mediating effect, both the direct and indirect effects involving the mediator must be statistically significant. Furthermore, 5000 bootstrap samples were utilized to ascertain the significance levels of the path coefficients, as illustrated in figure 2. The beta coefficient, sample mean (Mean), standard deviation (SD), T statistics (t-value) and p-value for each path are shown in table 6. The results of the analysis show that HRP has a significant positive effect on LYT, either directly or through different mediating paths (PSY, JS, or a combination of both).

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Table 6. Final result

Path	β	Mean	SD	t-value	p-value
HRP → LYT	0.134	0.134	0.038	3.513	0.000
HRP →PSY → LYT	0.197	0.198	0.028	7.149	0.000
HRP → JS →LYT	0.086	0.086	0.017	4.922	0.000
HRP → PSY → JS → LYT	0.115	0.115	0.016	7.279	0.000

Notes: bootstrapping (n = 5000)

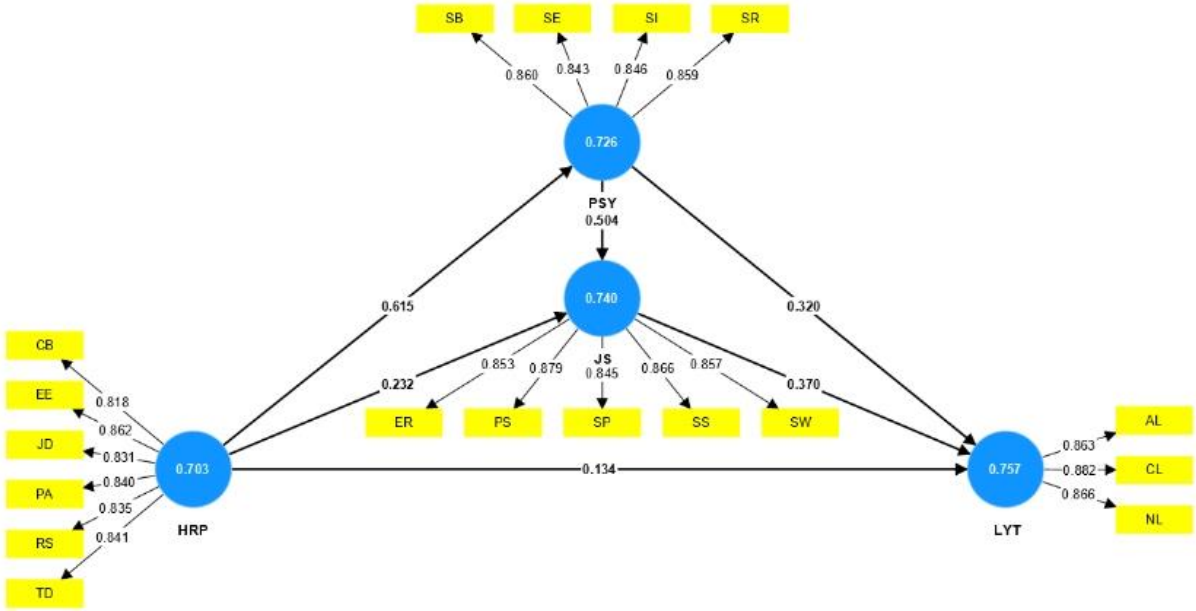

Figure 2. Final model with path coefficients, loadings, and AVE

4.7. Coefficient of determination (R^2)

The coefficient of determination (R^2) is commonly used to quantify the strength and degree of influence of the independent variable on the dependent variable in regression analysis. Values range from 0 to 1, with 0.75 considered substantial, 0.50 moderate, and 0.25 weak [37]. The R^2 value for LYT is 0.514, indicating a moderate level of explanation, and for JS and PSY, it is 0.450 and 0.378, respectively, also indicating moderate and weak levels. Detailed R^2 results are reported in table 7.

Table 7. Explanatory Power

Construct	R^2	R^2 Adjusted	Consideration
LYT	0.517	0.514	Moderate
JS	0.452	0.450	weak
PSY	0.379	0.378	weak

4.8. Effect size (f^2)

Effect size (f^2) is measured by observing changes in the coefficient of determination (R^2) value to determine the impact of exogenous latent variables on endogenous variables, assessing whether they have a substantive effect. An f^2 value of 0.02 indicates a small effect, 0.15 signifies a medium effect, and 0.35 represents a large effect. The path from HRP to PSY achieved the largest effect (0.610), indicating a significant influence. The path from HRP to LYT demonstrated a smallest effect (0.022). Detailed f^2 results are reported on table 8.

 ISSN 2723-6471

Table 8. f-square (f^2)

Path	f-square	Effect size
HRP → JS	0.061	Small
HRP → LYT	0.022	Small
HRP → PSY	0.610	Large
JS → LYT	0.155	Medium
PSY → JS	0.288	Medium
PSY → LYT	0.102	Small

4.9. Predictive Relevance (Q^2)

The Stone-Geisser test (Q^2) measures the model's predictive relevance by assessing how well the observed values are reproduced by the model and its parameters. A Q^2 value greater than 0 indicates that the model has predictive relevance; conversely, a value less than 0 signifies a lack of predictive relevance. The Q^2 values were derived using the blindfolding procedure in PLS-SEM. According to Chin [37], predictive relevance values are categorized as follows: 0.02 indicates a small predictive relevance, 0.15 a medium predictive relevance, and 0.35 a large predictive relevance, as suggested by Cohen [39]. The blindfolding results reveal that JS with Q^2 = 0.602, HRP with Q^2 = 0.579, PSY with Q^2 = 0.531, and LYT with Q^2 = 0.491, all demonstrate large predictive relevance. Detailed Q^2 results for this study are presented in table 9.

Table 9. Predictive relevance

Construct	Q^2	Predictive Relevance
HRP	0.579	Large Predictive
LYT	0.491	Large Predictive
JS	0.602	Large Predictive
PSY	0.531	Large Predictive

4.10. Hypotheses Results

The results of the hypothesized relationships of the research model are presented in this section. Total effects, the sum of direct and indirect effects, represent both the direct effect of one construct on another as well as the indirect effects of mediating constructs [25], [40]. The hypotheses, direct effect, indirect effect, total effect, and the result of the hypotheses are show in table 10. All hypotheses were supported.

Table 10. Hypotheses Results

Hypotheses	Predictor	Direct effect	Indirect effect	Total effect	Result
H1	HRP → LYT	0.134		0.134	Supported
H2	HRP → PSY→LYT	0.134	0.197	0.331	Supported
H3	HRP→ JS→ LYT	0.134	0.086	0.220	Supported
H4	HRP → PSY → JS → LYT	0.134	0.115	0.249	Supported

5. Discussion

This study aims to investigate the influence of HRP on LYT, with a focus on the mediating roles of PSY and JS within this dynamic. The researchers formulated four hypotheses and designed a questionnaire comprising 82 items. An online

survey was conducted among the faculty of Sichuan University of Technology, yielding 600 valid responses. The data were analyzed using SEM-PLS, with the findings presented in Tables 6 and 10.

5.1. Direct Effect of HRP on LYT

Our findings confirm that HRP has a significant direct positive effect on LYT (β = 0.134), supporting Hypothesis 1. This finding aligns with the research of Alfes et al. [16], Kehoe and Wright [17], which suggests that effective human resource management practices can directly enhance employee loyalty. The statistical significance of this direct effect (p-value = 0.000) further emphasizes the critical role of human resource management practices in promoting employee loyalty.

5.2. The Mediating Role of Psychological Ownership (PSY)

Our study confirms that HRP exerts a significant indirect impact on LYT by enhancing PSY (total effect = 0.331), supporting Hypothesis 2. This is consistent with the theories proposed by Avey et al. [8], Mayhew et al. [10], Pierce et al. [5], who regard psychological ownership as a pivotal factor in boosting employee job satisfaction and organizational commitment. The mediation analysis results for psychological ownership (β=0.197) demonstrate that psychological ownership serves as a key intermediary between HRP and employee loyalty, emphasizing its positive impact on employee attitudes and behaviors.

5.3. The Mediating Role of Job Satisfaction (JS)

This study also confirms that HRP positively impacts LYT by enhancing JS (total effect = 0.220), supporting Hypothesis 3. In line with the research findings of Judge et al. [41], Kehoe and Wright [17], job satisfaction has been identified as a key indicator for predicting employee performance and loyalty. This emphasizes the importance of optimizing human resource practices to improve employee satisfaction.

5.4. Sequential Mediating Role of Psychological Ownership and Job Satisfaction

This study demonstrates that HRP significantly impacts LYT through a sequential mediating pathway of psychological ownership and job satisfaction (total effect = 0.249), supporting Hypothesis 4. This finding is consistent with the research of Avey et al. [8], Olckers and Enslin [19], Van Dyne and Pierce [18]. The significance of this combined mediating pathway (p-value = 0.000) confirms the collaborative effect of psychological ownership and job satisfaction in transmitting the effects of HRP to employee loyalty, underscoring the dual importance of fostering both psychological ownership and job satisfaction to enhance employee loyalty. This finding supports Meyer and Allen [15], theory on the multiple pathways influencing employee organizational commitment.

6. Conclusion

This study investigates the impact of HRP on LYT through the mediating variables of PSY and JS via empirical analysis. The research findings reveal that HRP not only exerts a direct positive impact on employee loyalty but also influences it indirectly by enhancing psychological ownership and increasing job satisfaction, thus confirming the significance of the sequential mediating roles of psychological ownership and job satisfaction in the relationship between human resource management Practices and employee loyalty. These findings underscore the necessity of incorporating psychological and emotional considerations into human resource management practices, especially highlighting the crucial roles of psychological ownership and job satisfaction in bolstering employee loyalty. By acquiring a comprehensive understanding of the interactions among these variables, organizations can more effectively devise and apply human resource strategies to boost employee loyalty and overall organizational performance.

7. Contribution

7.1. Theoretical Contribution

7.1.1. Expanded the Theoretical Framework of the Impact of Human Resource Management Practices on Employee Loyalty

By incorporating psychological ownership and job satisfaction as mediating variables, this study not only corroborates the direct impact of human resource management practices on employee loyalty but also explores how human resource

management practices indirectly influences employee loyalty through these mediating variables. This comprehensive analytical approach offers a novel theoretical perspective for deciphering the intricate relationship between human resource management practices and employee loyalty.

7.1.2. Contribution of the Composite Mediating Model

Empirically, this study elucidates the sequential mediating roles of psychological ownership and job satisfaction in the nexus between human resource management practices and employee loyalty, presenting a new analytical paradigm for examining the correlation between human resource management practices and employee loyalty. It facilitates an enhanced understanding of the various pathways through which human resource management practices can affect employee loyalty.

7.1.3. Investigation from the Perspective of Chinese Higher Education Institutions

Focused on the context of chinese higher education, this study conducts an in-depth examination of the determinants of university teachers' loyalty, melding psychological ownership and job satisfaction theories. It uncovers their combined effect on the loyalty of university teachers, offering fresh theoretical insights into the interplay between psychological ownership and job satisfaction theories.

7.2. Contribution to Practice

This study, contextualized within the framework of the uneven distribution of higher education resources in China, selects Sichuan University of Technology as a case study to investigate effective strategies for enhancing teacher loyalty. This approach lends the research distinct regional characteristics and practical application value, offering fresh perspectives for understanding and addressing the challenges of resource allocation in Chinese higher education. It provides valuable insights for education policymakers and Western university managers on how to more effectively manage and motivate faculty, thereby mitigating the drain of academic talent.

7.2.1. Enhancing Teacher Psychological Ownership

University administrators can bolster teachers' sense of psychological ownership by affording greater autonomy, decision-making opportunities, and control over work processes. For instance, by fostering more open and inclusive communication channels and encouraging faculty to share their views and ideas.

7.2.2. Improving Teacher Job Satisfaction

It is imperative for university administrators to concentrate on refining the work environment, instituting a fair reward system, and creating opportunities for professional development. This ensures that faculty feel acknowledged for their efforts and perceive opportunities for growth and advancement.

7.2.3. Implementing Comprehensive Human Resource Management Strategies

Universities in Western China should holistically consider various human resource management practices, including recruitment, training, performance management, and employee benefits. These practices should be mutually supportive, collectively enhancing employee psychological ownership and job satisfaction, thereby elevating teacher loyalty and reducing the loss of talent.

8. Limitations and Future Research

The data for this study were sourced from Sichuan University of Technology, and the results may not be entirely generalizable to other regions or industries. Future research could enhance the study's universality and applicability by expanding the sample to include employees from various regions and industries.

This study utilized a cross-sectional research design, which may not fully capture the dynamic nature of employee loyalty and its influencing factors, thus limiting its ability to delineate causal relationships. Future research could employ a longitudinal research design to gain deeper insights into the causal links between human resource management practices, psychological ownership, job satisfaction, and employee loyalty.

While this study identified psychological ownership and job satisfaction as mediating variables, it may have overlooked other potential mediators or moderators. Future research should investigate additional latent variables that could influence the research model, thereby further enriching and refining the existing theoretical frameworks.

9. Declarations

9.1. Author Contributions

Conceptualization: J.H. and T.T.; Methodology: T.T.; Software: J.H.; Validation: J.H. and T.T.; Formal Analysis: J.H. and T.T.; Investigation: J.H.; Resources: T.T.; Data Curation: T.T.; Writing Original Draft Preparation: J.H. and T.T.; Writing Review and Editing: T.T. and J.H.; Visualization: J.H.; All authors have read and agreed to the published version of the manuscript.

9.2. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

9.3. Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

9.4. Institutional Review Board Statement

Not applicable.

9.5. Informed Consent Statement

Not applicable.

9.6. Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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