

Do Not Worry About Less but Worry About Inequality: The Importance of Interactive Fairness in The Performance Appraisal of University Faculty

¹²Chunmei Wang and ¹³Hongxia Li*

¹Rattanakosin International College of Creative Entrepreneurship, Rajamangala University of Technology Rattanakosin, Thailand.

²School of Chinese language and literature, Panzhihua University, China.

³School of Management Science and Engineering, Chongqing Technology and Business University, Chongqing, China.

Email: ¹wang442111489@foxmail.com, ²lihongxia@ctbu.edu.cn

Received August 11, 2022; **Revised** October 4, 2022; **Accepted** December 31, 2022

Abstract

Interaction fairness is the most flexible and operable dimension in the fairness of performance assessment, involving superiors' attitudes toward subordinates and whether information communication is comprehensive. It strongly influences faculty feelings and attitudes. It is an important variable that impacts university faculty performance appraisal satisfaction and job performance. This study explored the mediating role of appraisal satisfaction (AS) in perceived interactive fairness (PIF) and faculty job performance (JP) and the moderating effect of performance-related pay (PRP) size on the relationship between appraisal satisfaction and faculty job performance in higher education by investigating 407 teachers at a public undergraduate university in Sichuan Province of China. The results indicate that faculty members' perceived interactive fairness and appraisal satisfaction are positively related to faculty members' job performance. Performance appraisal satisfaction mediates the relationship between perceived appraisal interactive fairness and university faculties' teaching performance (TP) and research performance (RP). Furthermore, appraisal satisfaction positively affects faculty members' teaching performance when faculty members have a larger performance-related pay size. This study provided substantial support for performance appraisal characteristics and performance-related pay size research. These findings have implications for improving faculty members' performance appraisal and performance-related pay settings. Future research is also discussed.

Keywords: Interactive fairness; Appraisal satisfaction; Higher education

Introduction

With the comprehensive development of performance-related pay reform in public institutions, Chinese public universities have implemented performance appraisals widely. In the specific implementation, performance appraisal is closely related to faculties' economic interests and career development, which is the most severe concern of faculties in university management. Perceived fairness is an essential factor affecting performance appraisal roles. Many studies have proven that perceived fairness in performance appraisal affects employees' performance (Yan & Wang, 2020), turnover intention, and counterproductive work behavior (Zhao & Yu, 2009).

Chinese public university faculties are a particular professional group, servicing students and the government. Their work covers many areas but focuses on teaching and research. Perceived fairness in performance appraisal can impact job performance (Wang & Li, 2022). However, its effect mechanism is unclear. To clarify this point, this study proposes the following research questions: What is the predictive effect of perceived appraisal fairness on university faculty job performance? What is the mechanism of its influence? What is the impact of performance-related pay on these relationships? This study constructed a theoretical model. This study investigated 407 faculty members at a public undergraduate university in Sichuan Province and analyzed the relationship between variables. The objectives are to broaden the scope of research on faculty performance appraisals and job performance, clarify the relationship between the perceived interactive fairness of performance appraisals and job performance among university faculty, and test the effect of the magnitude of performance-related pay on the relationship between appraisal satisfaction and job performance. Its results will be instructive for the research and practice of performance appraisal in university faculties.

Literature review

The Impact of Perceived Interactive Fairness in Performance Appraisal on Job Performance and Appraisal Satisfaction

Perceived performance appraisal is the application and embodiment of organizational justice in the specific context of performance appraisal (Greenberg, 1986). It refers to the degree of fairness individuals perceive in the performance appraisal process (Yan & Wang, 2020). Many studies have divided it into three dimensions: procedural fairness, interactive fairness, and distributive justice of performance appraisal (Narcisse & Harcourt, 2008) and (Lin & Liu, 2018). Interactive fairness in performance appraisal refers to the quality of interpersonal treatment employees receive in the appraisal process, such as whether the examiners explain relevant information and questions and whether they respect and care for employees (Zhang, 2014).

In Chinese university faculties' performance evaluations, procedures are generally implemented following the system. Interactive fairness is the most flexible and operable among the three dimensions of fairness in performance assessment, involving superiors' attitudes

toward subordinates and whether information communication is comprehensive. In addition, university faculties have traditional scholars' characteristics with "stressing character" and "saving face". They shy away from talking directly about economic benefits, but affected by the market economy environment, they have to consider livelihood issues, so they pay a lot of attention to performance appraisal. Interactive communication in performance appraisal strongly influences faculty members' feelings and attitudes. Therefore, this study considered it as an important variable and focused on its impact on performance appraisal satisfaction and job performance.

There are many outcome variables of perceived fairness in performance appraisal. The literature finds that perceived fairness in performance appraisal affects appraisal satisfaction, job satisfaction, organizational commitment, turnover intention, job engagement, job performance, and counterproductive work behavior (Shrivastava & Purang, 2013). When individuals perceive higher organizational justice in performance appraisal, they will favor the organization. Salleh et al. (2013) found that the perception of fairness affects the organizational commitment of civil servants, and satisfaction plays a mediating role. Zhang (2014) proved that the perceived fairness of performance appraisal significantly impacted counterproductive work behavior. The perceived interactive fairness of performance appraisal has the most significant effect among the three dimensions.

According to the theory of social exchange, individuals will reward those who give them a sense of fairness in performance appraisal in a certain way. Akhtar & Khatkhat (2013) revealed that if an appraisal system has a reasonable appeal procedure and employee participation mechanism, employees have a high degree of acceptance and satisfaction. Ryu and Hong (2020) found that constructive performance feedback and trust in superiors significantly positively impact the perceived fairness of performance appraisal. Employees fairness perception in performance appraisal positively impacts performance appraisal results (Yan & Wang, 2020). Gupta and Kumar (2013) found that the perception of fairness is directly proportional to job involvement and inversely proportional to job burnout. Goksoy and Alayoglu (2013) found that information fairness significantly positively correlates with employee job engagement. Lin (2017) proved that appraisal justice impacts employees' organizational engagement and task performance, and the impact is more significant than that of appraisal satisfaction. Interactive fairness is an important dimension of fairness. In Chinese society, values face and human relations, interactive justice have the strongest explanation for organizational justice (Zhu & Long, 2012). Colquitt et al. (2001) found that interactive justice in performance appraisal is related to employee job satisfaction and job performance. Lin & Liu (2018) found that performance interactive fairness had a significant positive impact on employee innovation performance. Because university faculties focus on teaching and research work, this study proposed the following hypotheses:

H1. The interactive fairness of the performance appraisal of university faculties significantly affects performance appraisal satisfaction.

H2. The interactive fairness of university faculties' performance appraisal significantly affects university faculties' teaching performance.

H3. The interactive fairness of university faculties' performance appraisal significantly affects university faculties' research performance.

The Impact of Performance Appraisal Satisfaction on Faculty Members' Job Performance

Performance appraisal satisfaction refers to employees' perception of the timeliness, accuracy, and sense of justice of performance appraisal and their subjective evaluation of whether the appraisal results are approved or not (Luo et al., 2016). It is a personal psychological feeling and emotional experience (Zhao, 2020). It is employees' subjective reflection of performance appraisal content, process, and result, which significantly impacts employees' future performance, behavior, and attitude to the organization (Luo et al., 2016).

Performance appraisal satisfaction relates to both the evaluator and ratee (Zhao, 2020). Existing studies have found that fairness is the key to affecting performance appraisal satisfaction. Employee participation in performance appraisal can improve employees' perceived fairness (Amado et al., 2014). Employee fairness judgment positively correlates with performance appraisal satisfaction (Cunningham & Macgregor, 2014).

Performance appraisal satisfaction is significantly related to employees' future behavior and performance. Existing studies have found that performance satisfaction is positively correlated with employees' positive feedback and negatively correlated with employees' negative feedback. Individuals with higher performance satisfaction are more inclined to show positive behaviors in future work (Huffcutt et al., 2013). The lower the satisfaction level of performance appraisal is, the more likely employees are to show withdrawal behavior (Luo et al., 2016). Based on the above analysis, the following hypotheses are proposed:

H4. University faculties' performance appraisal satisfaction significantly affects their teaching performance.

H5. University faculties' performance appraisal satisfaction significantly affects their research performance.

2.3 The mediating role of performance appraisal satisfaction between the relationship of interactive fairness and faculties' job performance

University faculties' sense of interactive fairness in performance appraisal significantly impacts appraisal satisfaction and job performance, and performance appraisal satisfaction affects job performance. Therefore, this study proposes the following hypothesis:

H6. University faculties' performance appraisal satisfaction mediates the perceived interactive fairness of performance appraisal and teaching performance.

H7. University faculties' performance appraisal satisfaction mediates the perceived fairness of performance appraisal and research performance.

The Moderating Effect of Performance-Related Pay Size

Performance-related pay refers to variable pay based on performance (Zu et al., 2010). In this study, salary refers to the sum of all kinds of economic income obtained by faculty members in the employment labor relationship with universities, excluding other gains from part-time jobs outside school and transforming research achievements. Performance-related pay size is the proportion of performance-related pay in the total economic income of employees (Chen, 2018; Yuan & Li, 2014).

Performance-related pay can link employee performance with salary, attracting much attention in management research and practice (Belfield & Heywood, 2008). Many scholars believe that performance-related pay is an effective tool to improve employee performance. It has a positive incentive effect on employees, enhancing employees' labor productivity (Lazear, 2000) and job satisfaction (Green & Heywood, 2008) and forming a compelling incentive for their work. Its effects, however, are not fully understood. Studies show that the impact of performance-related pay varies according to different organizational characteristics, performance-related pay sizes, and scheme designs (Lucifora & Origo, 2015), and it does not constantly improve employee performance (Bowman, 2010).

As a controlling performance reward, performance-related pay will reduce the employees' autonomy and may hurt work motivation, making employees pay more attention to the work related to bonuses and ignore knowledge sharing, team contribution, and organizational citizenship behavior (Campbell et al., 1998). Therefore, the impact of performance-related pay on job performance is established under certain conditions. Research on the data of German enterprises found that only under high wage policy performance can related pay promote the improvement of production efficiency (Jirjahn, 2016). Performance-related pay has a stimulating effect on the performance improvement of quantitative and straightforward work tasks. Nevertheless, it has a limited impact on the performance improvement of complex and quality-oriented work tasks and even interferes with the influence of intrinsic motivation on high-quality performance (Deci et al, 2017).

Performance appraisal is a complex task. Its process and results relate to employees' psychology and behavior. In the assessment, if the appraisal results meet the employees' expectations, the employees will obtain a higher degree of satisfaction, so that they will be more devoted and hardworking in future work. At this point, the higher the incentive performance-related pay is, the greater the incentive effect of assessment on employees and the better employees' job performance. In contrast, if the performance appraisal fails to meet the employee's expectation, the employee will be dissatisfied with the appraisal, which will lead to the employee's withdrawal behavior in future work (Luo et al., 2016). At this time, if the proportion of incentive performance-related pay is more significant, then the relative rewards of employees are less, and the incentive effect of performance appraisal on employees will be

reduced. Employees' job performance will correspondingly decrease. Based on the above understanding, this study proposes the following hypothesis:

H8. Performance-related pay size positively moderates the relationship between performance appraisal satisfaction and teaching performance.

H9. Performance-related pay size positively moderates the relationship between performance appraisal satisfaction and research performance.

Research Methodology

Model Construction

Based on the above analysis of the effect of perceived interactive fairness, appraisal satisfaction, faculties' job performance, and performance-related pay size, this study constructed a conceptual framework (Fig. 1). In this model, perceived interactive fairness is the independent variable. Teaching and research performance are the dependent variables. Appraisal satisfaction is the mediating variable. Performance-related pay is the moderating variable.

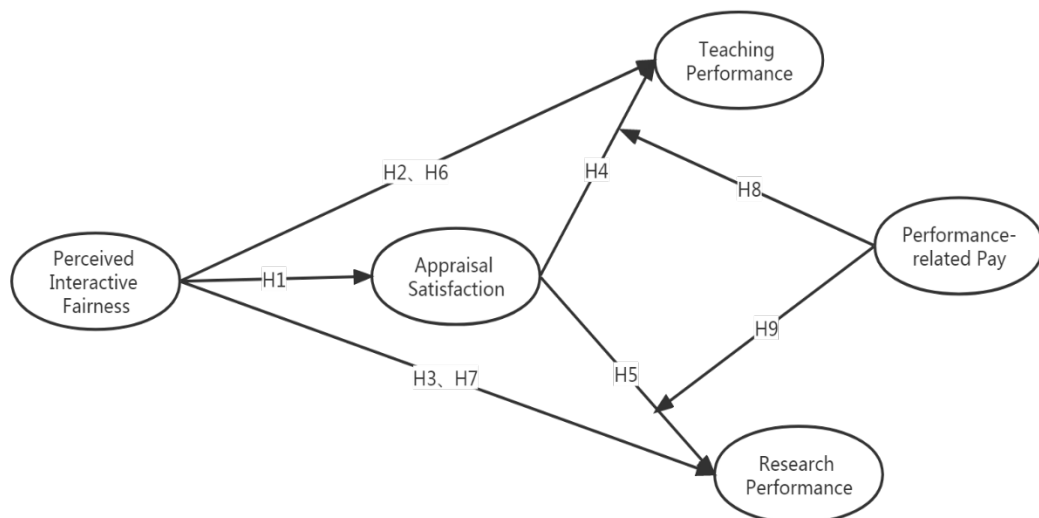


Fig. 1. Conceptual Framework

Research Samples

This study population comprised 47,086 full-time faculty members of public undergraduate universities in Sichuan Province in China (Liu, 2018). According to Krejcie & Morgan (1970), the required sample size was 384. Using stratified sampling and purposive sampling methods, 9 out of 39 undergraduate colleges in Sichuan Province were selected for

sampling. Online surveys are not significantly different from pen-and-paper tests (Chen & Shen, 2018). This study distributed questionnaires through an online platform (Wenjuanxing). A total of 600 questionnaires were sent out and recalled 410. Excluding three questionnaires, 407 questionnaires were valid.

Measurement Tools

All variables were measured individually based on the mature scale. Following the study of Du (2009), one question is used to measure the size of performance-related pay, that is, "What proportion of your performance-related pay in your total income last year? Please choose according to the following criteria: (1) 0-5%, 6-15% (2), (3) 16-30%, 31-50% (4), (5), 51-69% (6), 70-84% (7), 85-94% (8), 95-100%." The perceived interactive fairness scale of performance appraisal adopts the scale further improved by Zhang (2014) on the scale developed by Luo (2007). Performance appraisal satisfaction scale prepared by Dobbins et al. (1990). Job performance was measured by a scale developed in 2005 (Hu & Mo, 2005) specifically for the work of university faculties. The Likert 7-level scale was used to measure specific variables, ranging from 1-7, indicating "completely inconsistent" to "completely consistent".

To avoid the influence of irrelevant variables, the demographic variables age, gender, educational background, job tenure, and professional position were controlled in this study.

Data Collection

The data collection steps were as follows: (1) Completed questionnaires on the online platform. (2) Contacted the leadership of the selected university and requested that the sampled university personnel departments issue questionnaires to the faculties. (3) The questionnaire recovery was checked three times after sending out the questionnaire. For universities with poor recovery, the personnel department was asked to remind faculty members to help complete the questionnaire again.

Data Analysis

This study adopts SPSS 21 and Process 3.5 to analyze the data. First, we test the scales' reliability and validity. Then, we test the relationship between variables to verify the research hypothesis.

Results

Common Method Deviation Control and Test

This study used the latent factor method to control the single unmeasured method to detect common method deviation (Xiong et al., 2012). Smart-PLS analysis results showed that the square value of the method factor load was small and significantly lower than the square

value of the substantial construct load, indicating that there was no serious common method bias in the data of this study (Liang et al., 2007).

Scale Reliability and Validity Test

Since all the measurement scales used were mature scales, this study adopts confirmatory factor analysis for validity testing.

Factor Analysis

This study used factor analysis for confirmatory factor analysis. The KMO value is 0.928, indicating that the data are suitable for factor analysis. The four factors were verified, the factor loadings of all items were above 0.7, and the cumulative explanatory variance reached 76.34%, indicating that the scale construction met the standard suggested by Hair et al. (2010).

Reliability test

This study uses internal consistency to test scale reliability. Table 1 shows the results. All scales' Cronbach's coefficients were greater than 0.9. The correlation between each item is greater than 0.3. The correlation between the revised item and the total is greater than 0.5, indicating that the measurement scales have good reliability.

Table 1. Reliability Analysis Table of Scales

	Correlation matrix between items					Correlation coefficient between revised item and the total	Cronbach's α
	AS1	AS2	AS3	AS4	AS5		
AS1	1					0.824	0.938
AS2	0.711	1				0.821	
AS3	0.76	0.794	1			0.866	
AS4	0.702	0.744	0.779	1		0.817	
AS5	0.81	0.725	0.771	0.738	1	0.844	
	TP1	TP2	TP3	TP4	TP5		0.905
TP1	1					0.635	
TP2	0.572	1				0.778	
TP3	0.572	0.794	1			0.846	
TP4	0.578	0.704	0.802	1		0.828	
TP5	0.531	0.598	0.688	0.724	1	0.731	
	RP1	RP2	RP3	RP4	RP5		0.923
RP1	1					0.733	
RP2	0.705	1				0.723	
RP3	0.683	0.698	1			0.834	
RP4	0.622	0.607	0.814	1		0.833	
JP5	0.559	0.557	0.656	0.717	1	0.758	
RP6	0.603	0.563	0.678	0.756	0.753	0.787	

	PIF 1	PIF 2	PIF 3	PIF 4	PIF5	
PIF1	1					0.801
PIF 2	0.71	1				0.747
PIF 3	0.726	0.764	1			0.841
PIF 4	0.688	0.607	0.762	1		0.807
PIF 5	0.689	0.585	0.676	0.768	1	0.77

0.919

Scale Validity Analysis

This study adopted convergence and discriminant validity to measure scale validity. Table 2 shows the analysis results. The composite reliability (CR) of each construct is greater than 0.7, indicating that the questionnaire has good composite reliability. Each construct's average extraction variation (AVE) is greater than 0.50, indicating that the construct has convergence validity (Hair et al., 2010). The square roots of all AVE are greater than the standardized correlation coefficients between this construct and other constructs, indicating that the scale has good discriminant validity (Fornell & Larcker, 1981).

The descriptive statistics and correlation analysis results show that the interactive fairness sense and satisfaction degree of performance appraisal was above the medium level. Teaching performance is significantly higher than research performance. The variables were moderate to highly correlated with each other, which laid a solid foundation for the follow-up regression analysis.

Table 2. Description Statistics and Scale Validity Analysis Table

Construct	Description statistics		Composite reliability	Convergent validity	Discriminant validity			
	Mean	Standard deviation	CR	AVE	Pearson correlation and AVE square root value			
					PIF	AS	TP	RP
PIF	4.47	1.06	0.89	0.61	0.781			
AS	4.32	1.15	0.9	0.63	0.722**	0.794		
TP	5.07	0.92	0.91	0.67	0.349**	0.361**	0.819	
RP	4.15	1.15	0.91	0.64	0.438**	0.489**	0.443**	0.800

Note: The words in bold on the diagonal of discriminant validity are the square root value of AVE, and the lower triangle area is the Pearson correlation coefficient of the construct. ** indicates a significant correlation at the 0.01 level (double-tailed); * indicates a significant correlation at the 0.05 level (double-tailed).

Hypothesis Test

Direct Effects Test

To test the direct relationships between variables, in the case of controlling demographic variables, this study carried out a hierarchical regression analysis of the perceived interactive fairness of performance appraisal on performance appraisal satisfaction, teaching performance, and research performance. Then, this study conducted a hierarchical regression analysis of performance appraisal satisfaction on teaching and research performance. Table 3 and Table 4 show the results (N=407). In the collinearity detection, the Durbin-Watson values of all models were approximately 2, and the VIF values of all variables were less than 5, indicating that there was no multicollinearity problem among variables.

Table 3. The Direct Effects of PIF on TP, RP, and AS

Independent variable		TP		RP		AS	
Model		Model1	Model2	Model3	Model4	Model5	Model6
Control Variable	Gender	0.019	0.091	-0.406**	-0.301**	-0.266**	-0.088
	Age	0.111	0.174*	0.13	0.223*	-0.141	0.015
	Education	0.104	0.078	0.24**	0.203*	-0.006	-0.07
	Job tenure	-0.052	-0.061	-0.027	-0.04	-0.019	-0.04
	Professional position	0.025	0.035	-0.119	-0.104	0.055	0.079
Dependent Variable	PIF		0.318**		0.464**		0.781**
	R Square	0.017	0.145	0.061	0.238	0.025	0.526
	Adjusted R Square	0.004	0.132	0.049	0.227	0.013	0.519
	R Square Change	0.017	0.129**	0.061**	0.177**	0.025**	0.501**

Note: **indicates a significant effect at the 0.01 level (double-tailed); * indicates a significant effect at the 0.05 level (double-tailed).

Table 4. The Direct Effects of AS on TP and RP

Independent variable		TP		RP	
Model		Model1	Model2	Model3	Model4
Control Variable	Gender	0.019	0.098	-0.406**	-0.279**
	Age	0.111	0.153	0.13	0.197*
	Education	0.104	0.106	0.24	0.243**
	Job tenure	-0.052	-0.047	-0.027	-0.018
	Professional position	0.025	0.009	-0.119	-0.145
Dependent Variable	AS		0.298**		0.479**
	R Square	0.017	0.151	0.061	0.284
	Adjusted R Square	0.004	0.139	0.049	0.274
	R Square Change	0.017	0.135**	0.061**	0.224**

Note: ** indicates a significant effect at the 0.01 level (double-tailed); * indicates a significant effect at the 0.05 level (double-tailed).

As shown in Table 4, excluding the influence of demographic variables, perceived interactive fairness with performance appraisal positively significantly impacts teaching performance, research performance, and appraisal satisfaction. The effect coefficients were 0.318, 0.464, and 0.781, respectively. $p < 0.01$. Appraisal satisfaction significantly affects teaching performance and research performance. The effect coefficients were 0.298 and 0.479 ($p < 0.01$). Hypotheses H1, H2, H3, H4, and H5 were verified.

Mediation Effect Analysis

This study adopts Hayes' Process 3.5 Model 4 and the bootstrapping method to test the mediating effect between the perceived interactive fairness and the performance of teaching and research. Tables 5 and 6 show the test results.

Table 5. Mediation Effects of Appraisal Satisfaction between Perceived Interactive Fairness and Job Performance

Regression equation N=407)			Fitting index			Unnormalized coefficient	t
Independent Variable	Dependent variable	Mediation variable	R	R ²	F	B	
PIF						0.318 **	7.761
Gender						0.091	1.041
Age						0.174*	2.152
Education background	TP	AS	0.381	0.145	11.334	0.078	1.131
Job tenure						-0.061	-1.155
Title						0.035	0.565
PIF						0.464 **	9.649
Gender						-0.301*	-2.931
Age						0.223 *	2.336
Education background	RP	AS	0.488	0.238	20.829	0.203*	2.499
Job tenure						-0.040	-0.638
Title						-0.104	-1.432

Note: ** indicates a significant effect at the 0.01 level (double-tailed); * indicates a significant effect at the 0.05 level (double-tailed).

Table 6. Total Effect, Direct Effect and the Mediating Effect

Regression equation N=407)			Index	Effect	se	T	p	LLCI	ULCI	Effect proportion
Independent Variable	Dependent variable	Mediation variable								
PIF	TP	AS	Total effect	0.318	0.041	7.761	0.000	0.237	0.398	
			direct effect	0.174	0.058	3.008	0.003	0.060	0.288	55%
			Indirect effect	0.144	0.064			0.015	0.258	45%
PIF	RP	AS	Total effect	0.464	0.048	9.649	0.000	0.370	0.559	
			direct effect	0.186	0.066	2.806	0.005	0.056	0.317	40%
			Indirect effect	0.278	0.059			0.167	0.397	60%

Note: LICI represents the lower 95% confidence interval limit, and ULCI represents the upper 95% confidence interval limit. If the 95% confidence interval does not contain 0, the correlation is significant; otherwise, it is insignificant.

As seen from Tables 5 and 6, when controlling for the demographic variables and adding the mediating variable (performance appraisal satisfaction), the perceived interactive fairness of performance appraisal still significantly affects teaching performance ($B=0.3189$, $T=7.761$, $P < 0.001$) and research performance ($B=0.454$, $T=9.649$, $P < 0.001$). These results indicate that the perceived interactive fairness of performance appraisal can directly predict university faculties' teaching and research performance. It can also predict teaching and research performance through appraisal satisfaction. Hypotheses H6 and H7 were verified.

Table 6 also shows that the direct effect (0.174) and mediating effect (0.144) of interactive fairness in performance appraisal on teaching performance account for 55% and 45% of the total effect (0.318), respectively. The direct effect (0.186) and mediating effect (0.278) on research performance accounted for 40% and 60% of the total effect (0.464), respectively.

Analysis of the Moderating Effect

This study used Hayes' Process 3.5 Model 14 to test the moderating effect of performance-related pay size on the relationship between performance appraisal satisfaction and teaching and research performance. The results (see Table 7) showed that the product of performance appraisal satisfaction and performance-related pay size has a significant predictive effect on teaching performance ($B=0.05$, $T=2$, $P < 0.05$), but it did not affect research performance. These results indicate that performance-related pay size can adjust the effect of performance appraisal satisfaction on teaching performance but cannot influence performance appraisal satisfaction on research performance. Hypothesis H8 was supported. Hypothesis H9 was not supported.

Table 7. The Moderating Effect of the Performance-Related Pay Size Test

Regression equation (N=407)		Fitness index			Coefficient significance		
IV	DV	R	R ²	F	B	t	p
PIF					0.176**	3.047	0.003
AS					0.181**	3.408	0.001
PRP					0.001	0.026	0.979
AS*PRP					0.050**	2.147	0.032
Gender	TP	0.424	0.180	9.660	0.122	1.412	0.159
Age					0.172**	2.159	0.031
Education					0.080	1.178	0.240
Job tenure					-0.057	-1.097	0.273
Title					0.026	0.422	0.673
PIF					0.188**	2.822	0.005
AS					0.356**	5.834	0.000
PRP					-0.016	-0.492	0.623
AS*PRP					0.023	0.835	0.404
Gender	RP	0.548	0.300	18.898	-0.264**	-2.660	0.008
Age					0.218*	2.375	0.018
Education					0.225**	2.867	0.004
Job tenure					-0.025	-0.409	0.682
Title					-0.127	-1.790	0.074

Note: ** indicates a significant effect at the 0.01 level (double-tailed); * indicates a significant effect at the 0.05 level (double-tailed).

To further demonstrate the moderating effect, this study showed the predictive effect of perceived interactive fairness in performance appraisal at different levels of performance-related pay size on teaching performance in Table 8. The results show that performance

appraisal satisfaction has a little predictive effect on teaching performance for the subjects with low performance-related pay size. Performance appraisal satisfaction is more significant to teaching performance for faculty members with higher performance-related pay.

Table 8. The Impact of Appraisal Satisfaction at Different Performance-Related Pay Sizes

MV	DV	PRP	Effect value	Standard error	t	p	Boot CI lower limit	Boot CI upper limit
AS	TP	-1.527	0.104	0.065	1.611	0.108	-0.023	0.231
		0	0.181	0.053	3.408	0.001	0.077	0.285
		1.527	0.257	0.063	4.073	0.000	0.133	0.382

Conclusion and Discussion

Main Findings

University Faculties' Perceived Interactive Fairness of Performance Appraisal Affects Job Performance.

Perceived interactive fairness has different influences on teaching and research. This conclusion is consistent with previous studies, which showed that the perceived fairness of performance appraisal positively impacts employees' job performance (Lin & Liu, 2018). From the micro perspective of interactive fairness in performance appraisal characteristics, this study finds that interactive fairness has a significant positive effect on teaching and research performance. The predictive effect on research performance is more significant than that on teaching performance.

University Faculties' Performance Appraisal Satisfaction Mediates Perceived Interactive Fairness and Job Performance.

This finding further explains the mechanism of the relationship between the perceived interactive fairness of performance appraisal and job performance. Previous studies have shown that the interactive fairness of performance appraisal significantly affects performance appraisal satisfaction (Huang, & Li, 2012; Gupta & Kumar, 2013), and performance appraisal satisfaction significantly predicts employees' job performance. This study reveals the mediating role of performance appraisal satisfaction in interaction justice and faculty members' job performance, deepening the research on perceived appraisal fairness and satisfaction.

The Moderating Effect of Performance-Related Pay Size

This study found that the larger the performance-related pay size is, the stronger the predictive effect of performance appraisal satisfaction on teaching performance. According to social exchange theory, individuals reciprocate goodwill from the outside. Employees' satisfaction with performance appraisal will make them grateful to the organization and work harder. At this time, higher performance-related pay will enhance their reciprocation psychology to the organization, thus improving employees' teaching performance. This

conclusion is consistent with the research results of Chien et al. (2010) and Peng and Fu (2016). However, the research did not find an inverted U-shaped relationship between performance-related pay and employee motivation, which is different from the research results of Ma and Shan (2013) and Yuan & Li (2014). Further research is needed on the incentive effect of merit pay on university faculties.

This study also found that the product of performance appraisal satisfaction and performance-related pay size did not significantly predict faculty members' research performance. This is because performance-related pay is a product of evaluative performance appraisal, which has been shown to limit the creativity and innovation of faculty in universities (Ter Bogt & Scapens, 2012). Relatively, research work requires more creativity and innovation than teaching work, which is not only provided by evaluative performance appraisal. Instead, employees may choose safer methods to ensure that they can complete the research tasks required by the appraisal, which may harm the quality of research work.

Limitation

There are also some deficiencies in this study that need to be addressed in future research. First, the subjects of this study were faculty members in Chinese public universities. Whether the conclusions of this study can also be applied to private universities needs further verification. Second, this study focused on the moderating effect of performance-related pay size on the relationship between performance appraisal satisfaction and faculty members' job performance. Further research is needed on how performance-related pay size affects university faculties' job performance.

Implications and Countermeasures

Attaching More Importance to Interactive Fairness

Universities should fully respect employees and strengthen communication with employees. On the premise of employees' participation, realistic goals and tasks should be set according to the organization and employees' needs. To ensure that employees fully understand organizational goals and their own performance requirements. Regularly follow up the completion of staff's target tasks and give timely feedback and constructive suggestions on the completion of tasks.

Improving the Satisfaction of Assessment

Performance appraisal satisfaction is directly related to employee performance. It plays an intermediary role in the relationship between interactive fairness and employee performance. Universities should carry out appraisal satisfaction assessments in a timely manner after completing performance assessments and fully listen to employees' opinions on performance assessments. Remove the obstacles that restrict employees' enthusiasm, constantly improve performance assessment to enhance employee satisfaction, and ensure the realization of organizational goals.

Using Performance-Related Pay Wisely

Performance-related pay is an essential tool to improve employees' work enthusiasm, but it does not directly produce job performance. Universities can only take performance-related pay as a means in faculty performance appraisal but not as the only means.

References

- Akhtar, T., & Khattak, S. (2013). Employee acceptability of performance appraisals: Issues of fairness and justice. *Journal of world applied sciences*, 24(4), 507-518. <https://doi.org/10.5829/idosi.wasj.2013.24.04.241>
- Amado, S., Arıkan, E., Kaça, G., Koyuncu, M., & Turkan, B. N. (2014). How accurately do drivers evaluate their own driving behavior? An on-road observational study. *Accident Analysis & Prevention*, 63(2014), 65-73. <https://doi.org/10.1016/j.aap.2013.10.022>
- Belfield, C. R., & Heywood, J. S. (2008). Performance pay for faculties: Determinants and consequences. *Economics of Education Review*, 27(3), 243-252. <https://doi.org/10.1016/j.econedurev.2008.01.002>
- Bowman, J. S. (2010). The success of failure: The paradox of performance-related pay. *Review of Public Personnel Administration*, 30(1), 70-88. <https://doi.org/10.1177/0734371x09351824>
- Campbell, D. J., Campbell, K. M., & Chia, H. B. (1998). Merit pay, performance appraisal, and individual motivation: An analysis and alternative. *Human Resource Management*, 37(2), 131-146. [https://doi.org/10.1002/\(sici\)1099-050x\(199822\)37:2<131::Aid-hrm4>3.0.Co;2-x](https://doi.org/10.1002/(sici)1099-050x(199822)37:2<131::Aid-hrm4>3.0.Co;2-x)
- Chen, C. A. (2018). A little is better than zero or pay enough or do not pay at all? Evidence on the size of pay-for-performance across the sectors. *Public Personnel Management*, 47(2), 119-143. <https://doi.org/10.1177/0091026017747298>
- Chen, X., & Shen, W. (2018). *Empirical methods in organization and management research*. Peking University Press.
- Chien, M. S., Lawler, J. S., & Uen, J.-F. (2010). Performance-based pay, procedural justice and job performance for RD professionals: evidence from the Taiwanese high-tech sector. *International Journal of Human Resource Management*, 21(12), 2234-2248. <https://doi.org/10.1080/09585192.2010.509626>
- Chunmei, Wang & Hongxia, Li. (2022). Performance pressure, workplace anxiety, emotional exhaustion, and job performance: An empirical research on Chinese Public Universities. *RICE Journal of Creative Entrepreneurship and Management*, 3(2), 27-52. <https://doi.org/10.14456/rjcm.2022.9>
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 425-445. <https://doi.org/10.1037//0021-9010.86.3.425>
- Cunningham, J. B., & Macgregor, J. N. (2014). Productive and reproductive thinking in solving insight problems. *Journal of Creative Behavior*, 48(1), 44-63. <https://doi.org/10.1002/jocb.40>
- Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 19-43. <https://doi.org/10.1146/annurev-orgpsych-032516-113108>
- Dobbins, G. H., Cardy, R. L., & Platzvieno, S. J. (1990). A contingency approach to appraisal satisfaction - an initial investigation of the joint effects of organizational variables and

- appraisal characteristics. *Journal of Management*, 16(3), 619-632. <https://doi.org/10.1177/014920639001600307>
- Du, X. (2009). Pay for performance: a double-edged sword. *Chinese Journal of Nankai Business Review*, 12(03), 117-134
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.2307/3151312>
- Fu, W. (2016). *Performance and compensation management*. Tsinghua University Press.
- Goksoy, A., & Alayoglu, N. (2013). The Impact of Perception of Performance Appraisal and Distributive Justice Fairness on Employees' Ethical Decision Making in Paternalist Organizational Culture. *Performance Improvement Quarterly*, 26(1), 57-79. <http://dx.doi.org/10.1002/piq.21137>
- Green, C., & Heywood, J. S. (2008). Does performance-related pay increase job satisfaction? *Economica*, 75(300), 710-728. <https://doi.org/10.1111/j.1468-0335.2007.00649.x>
- Greenberg, J. (1986). Determinants of perceived fairness of performance evaluations. *Journal of Applied Psychology*, 71(2), 340-342. <https://doi.org/10.1037/0021-9010.71.2.340>
- Gupta, V., & Kumar, S. (2013). Impact of perceived appraisal fairness on employee engagement: A study of Indian professionals. *Employee Relations*, 35(1), 61-78. <https://doi.org/10.1108/01425451311279410>
- Hair, J., Anderson, R. E., Tatham, R. L., & Black, W. C. (2010). *Multivariate data analysis*. Prentice-Hall International.
- Hu, J., & Mo, Y. (2005). A research on organizational commitment and job performance of University faculties. *Journal of Zhejiang Sci-Tech University*, 4, 420-429.
- Huang, Z., & Li, L. (2012). Measures to improve employee satisfaction in performance appraisal. *Journal of Enterprise Research*, 2, 43-44, 47.
- Huffcutt, A. I., Culbertson, S. S., & Weyhrauch, W. S. (2013). Employment Interview Reliability: New meta-analytic estimates by structure and format. *International Journal of Selection and Assessment*, 21(3), 264-276. <https://doi.org/10.1111/ijsa.12036>
- Jirjahn, U. (2016). Performance pay and productivity: A note on the moderating role of a high-wage policy. *Managerial and Decision Economics*, 37(7), 507-511. <https://doi.org/10.1002/mde.2786>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Lazear, E. P. (2000). Performance pay and productivity. *American Economic Review*, 90(5), 1346-1361. <https://doi.org/10.1257/aer.90.5.1346>
- Liang, H., Saraf, N., Hu, Q., & Xue, Y. (2007). Assimilation of enterprise systems: The effect of institutional pressures and the mediating role of top management. *Mis Quarterly*, 31(1), 59-87. <https://doi.org/10.2307/25148781>
- Lin, L. (2017). An empirical study on performance appraisal orientation and its effect. *Social Scientist*, 3, 76-79.
- Lin, X., & Liu, Y. (2018). The influence of performance appraisal fairness on employee innovation performance: The mediating effect of Psychological security. *Modern Management Science*, 5, 94-96.
- Liu, T. (2018). V.I, Number of full-time faculty. Liu (eds.) *Sichuan education yearbook*. Sichuan Education Press.
- Lucifora, C., & Origo, F. (2015). Performance-related pay and firm productivity: evidence from a reform in the structure of collective bargaining. *ILR Review*, 68(3), 606-632. <https://doi.org/10.1177/0019793915570876>

- Luo, H., He, X., & Wang, X. (2016). The moderated mediating effect of performance appraisal satisfaction on job withdrawal behavior. *Journal of Psychology and Behavior*, 14(6), 817-825.
- Luo, J. (2007). *The study on perception of justice in performance appraisal and its impacts on knowledge worker's work attitude*[Doctoral dissertation, Huazhong University of Science and Technology].
- Ma, J., & Shan, M. (2013). The inverted “U-shape” performance pay pattern in research-oriented Universities: The impact and optimization of hierarchical pay structure. *Chinese Journal of Shanghai University(Social Sciences Edition)*, 30(01), 111-124.
- Narcisse, S., & Harcourt, M. (2008). Employee fairness perceptions of performance appraisal: a Saint Lucian case study. *The International Journal of Human Resource Management*, 19(6), 1152-1169. <https://doi.org/10.1080/09585190802051451>
- Peng, X., & Fu, J. (2016). The impact of performance-related pay intensity on employee performance structure. *Journal of Social Sciences of Hunan Normal University*, 45(4), 77-82.
- Ryu, G., & Hong, S. W. (2020). The mediating effect of trust in supervisors in the relationship between constructive performance feedback and perceived fairness of performance appraisal. *Public Performance & Management Review*, 43(4), 871-888. <https://doi.org/10.1080/15309576.2019.1676274>
- Salleh, M., Amin, A., Muda, S., & Halim, M. A. (2013). Fairness of performance appraisal and organizational commitment. *Asian Social Science*, 9(2), 121- 128. <https://doi.org/10.5539/ass.v9n2p121>
- Shrivastava, A., & Purang, P. (2016). Performance appraisal fairness & its outcomes: A study of Indian banks. *Indian Journal of Industrial Relations*, 51(4), 660-674.
- ter Bogt, H. J., & Scapens, R. W. (2012). Performance management in Universities: Effects of the transition to more quantitative measurement systems. *European Accounting Review*, 21(3), 451-497. <https://doi.org/10.1080/09638180.2012.668323>
- Wang, C., & Li, H. (2022). Work motivation and performance appraisal: the Chinese college instructors perceived procedural fairness of moderating effect. *Journal of Higher Education Theory and Practice*, 22(11). <https://doi.org/10.33423/jhetp.v22i11.5420>
- Xiong, H., Zhang, J., Ye, B., Zheng, X., & Sun, P. (2012). The influence of common method variation and its statistical control pathway model Analysis. *Advances in Psychological Science*, 20(5), 757-769.
- Yan, K., & Wang, X. (2020). A study on the influence of the perception of fairness in performance Appraisal on the job performance of grassroots employees. *China Market*, 2, 117-118.
- Yuan, Y., & Li, F. (2014). An empirical study on the influence of performance pay intensity on college staff's pay satisfaction. *East China Economic Management*, 28(06), 172-176.
- Zhang, Y. (2014). The relationship between fairness perceptions in performance appraisal and counterproductive work behavior: Exchange ideology as a moderator. *Management Review*, 26(8), 158 - 180.
- Zhao R. (2020). Research on influencing factors of managerial performance appraisal satisfaction. *China Economic and Trade Guide*, 2, 108-111.
- Zhao, S., & Yu, D. (2009). Counterproductive work behavior caused by performance appraisal and its control. *China Human Resource Development*, 11, 36-38.
- Zhou, C. (2020). The influence of perceived fairness of performance appraisal on turnover intention of employees in software industry. [Master's Thesis, University of Electronic Science and Technology of China].

- Zhu, Q., & Long, L. (2012). Review of interactive justice research. *Management Review*, 24(4), 101-106. <https://doi.org/10.14120/j.cnki.cn11-5057/f.2012.04.020>.
- Zu, W., Long, L., Zhao, H., & He, W. (2010). An empirical study on the impact of performance pay intensity on employee pay satisfaction. *Chinese Journal of Management*, 7(9), 1321-1328.