

Research on Influencing Factors of Scientific Research Performance Evaluation Satisfaction Degree of Humanities and Social Sciences Teachers in Universities

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Abstract: In order to find out the factors affecting the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities, the study conducted empirical research. Aiming at the influence of individual characteristics and individual status on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities, the study puts forward 8 research hypotheses. Through the linear regression test, it is found that age, educational background, individual research autonomy degree, individual research performance and individual salary are the positive factors affecting the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. The administrative position is a negative factor affecting the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities.

1. Introduction

There are many problems in scientific research performance evaluation of humanities and social sciences teachers in universities. For example, according to Chen and Li, it is believed that the main problems of evaluation of scientific research performance of humanities and social sciences in universities include administrative dominance, repeated evaluation [1], and simple evaluation indicators, etc. [2]. Su (2020) believed that the main problems of evaluation of scientific research performance of humanities and social sciences in universities included evaluating the quality of scientific research performance according to the citation rate, etc. [3]. Qiu et al. (2008) argued that the main problems in the evaluation of scientific research performance of humanities and social sciences in universities included the difficulty of evaluation methods to achieve ideal results and imperfect evaluation procedures, etc. [4]. The problems in evaluation mechanism may lead to the low satisfaction of humanities and social sciences teachers in the evaluation of university scientific research performance [5]. Teachers' satisfaction degree with the evaluation of scientific research performance directly affects the effect of scientific research management in universities. Therefore, the research on the factors influencing the satisfaction degree of humanities and social sciences

teachers' scientific research performance evaluation is conducive to enriching the improvement of the evaluation system of humanities and social sciences scientific research performance in universities and improving the effect of scientific research management in universities.

2. Research hypothesis and research design

2.1 Research hypothesis

In order to find out the factors affecting the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities, the study puts forward preliminary research hypotheses on the basis of related studies. First, individual characteristics has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Second, individual status has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. In terms of teachers' individual characteristics, four elements were selected, including age, educational background, administrative position and professional title. In terms of teachers' individual status, four elements were selected, including individual research development degree, individual research autonomy degree, individual research performance and individual salary. Based on the above information, the following eight research hypotheses are proposed in the study (Table 1). Hypothesis 1: Age has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Hypothesis 2: Educational background has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Hypothesis 3: Administrative position has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Hypothesis 4: Professional title has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Hypothesis 5: Individual research development degree has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Hypothesis 6: Individual research autonomy degree has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Hypothesis 7: Individual research performance has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Hypothesis 8: Individual salary has positive and significant impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities.

Table 1: Research hypothesis

Hypothesis	Path	Positive and significant impact
H1	Age—>Satisfaction degree	+
H2	Educational background—> Satisfaction degree	+
H3	Administrative position—> Satisfaction degree	+
H4	Professional title—> Satisfaction degree	+
H5	Individual research development degree—> Satisfaction degree	+
H6	Individual research autonomy degree—> Satisfaction degree	+
H7	Individual research performance—> Satisfaction degree	+
H8	Individual salary—> Satisfaction degree	+

2.2 Research design

2.2.1 Research tool

In order to find out the factors affecting the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities, the study developed a questionnaire based on the author's previous research and other related research. The questionnaire is divided into three parts. The first part and the second part are multiple-choice questions, and the third part is scale questions. In terms of content, the first part is the teachers' individual characteristics with four measurement items (age, educational background, administrative position, professional title). The second part is the individual status of teachers with four measurement items (individual research development degree, individual research autonomy degree, individual research performance and individual salary). The third part is five-level Likert scale to measure teachers' satisfaction degree with the evaluation mechanism of scientific research performance, including evaluation criteria, evaluation procedures, evaluation indicators, evaluation periods, etc., with a total of seven measurement items.

2.2.2 Pre-survey

In order to determine the validity of the questionnaire, the study conducted a small sample survey of humanities and social sciences teachers in N University in Liaoning province. The respondents came from humanities and social sciences disciplines such as philosophy, linguistics, arts, politics, economics, law and education, etc. A total of 100 electronic questionnaires were distributed and 87 questionnaires were recovered with a recovery rate of 87%. After excluding invalid questionnaires, 82 questionnaires were valid with an effective recovery rate of 82%. The Cronbach's Alpha coefficient and KMO coefficient of the questionnaire were 0.896 and 0.832, and the cumulative variance contribution rate was 70.432%.

3. Research process

3.1 Formal survey

The study conducted the formal survey of humanities and social sciences teachers in 3 universities in Liaoning province. The respondents came from different humanities and social sciences disciplines. A total of 300 electronic questionnaires were distributed and 292 questionnaires were recovered with a recovery rate of 97.33%. After excluding invalid questionnaires, 287 questionnaires were valid with an effective recovery rate of 95.67%. The Cronbach's Alpha coefficient and KMO coefficient of the questionnaire were 0.906 and 0.847.

3.2 Explanatory variables and instructions

The dependent variable of the study is the overall satisfaction degree of humanities and social sciences teachers on the evaluation of scientific research performance. Explanatory variables and their instructions are shown in Table 2.

Table 2: Explanatory variables and their instructions

Indicators category	Indicators	Code	Instructions
Individual characteristics	Age	X ₁	≤30=0 31-40=1 41-50=2 51-60=3 ≥60=4
	Educational background	X ₂	Bachelor=0 Master=1 Doctor=2
	Administrative position	X ₃	No duties=0 Section level=1 Deputy director level=2 Director level and above=3
	Professional title	X ₄	Junior title=0 Intermediate title=1 Associate senior title=2 Senior title=3
Individual status	Individual research development degree	X ₅	Dissatisfied=0 Satisfied=1
	Individual research autonomy degree	X ₆	Dissatisfied=0 Satisfied=1
	Individual research performance	X ₇	Dissatisfied=0 Satisfied=1
	Individual salary	X ₈	Dissatisfied=0 Satisfied=1

4. Results

4.1 Descriptive statistics

Table 3: Descriptive statistics results of individual characteristics

Name	Options	Frequency	Percent (%)	Cumulative percent (%)
Age	0.0	32	11.15	11.15
	1.0	120	41.81	52.96
	2.0	88	30.66	83.62
	3.0	32	11.15	94.77
	4.0	15	5.23	100.00
Educational background	0.0	27	9.41	9.41
	1.0	52	18.12	27.53
	2.0	208	72.47	100.00
Administrative position	0.0	229	79.79	79.79
	1.0	12	4.18	83.97
	2.0	16	5.57	89.55
	3.0	30	10.45	100.00
Professional title	0.0	28	9.76	9.76
	1.0	84	29.27	39.02
	2.0	109	37.98	77.00
	3.0	66	23.00	100.00
Total		287	100.0	100.0

The descriptive statistical results of individual characteristics and individual conditions are presented in Table 3 and Table 4. As can be seen from Table 3 and Table 4, in terms of age, “31-40

years old” accounts for 41.81%. In terms of educational background, the majority of the samples are “doctors”, accounting for 72.47%. In terms of administrative position, 79.79% of the sample are “no duties”. In terms of professional title, there are relatively many “associate senior title” in the sample, accounting for 37.98%. In terms of individual research development degree, “satisfied” accounts for 60.98%. In terms of individual research autonomy degree, “satisfied” accounts for 56.76%. In terms of individual research performance, “satisfied” accounts for 59.58%. In terms of individual salary, the proportion of “satisfied” is 59.93%.

Table 4: Descriptive statistics results of individual status

Name	Options	Frequency	Percent (%)	Cumulative percent (%)
Individual research development degree	0.0	112	39.02	39.02
	1.0	175	60.98	100.00
Individual research autonomy degree	0.0	124	43.21	43.21
	1.0	163	56.79	100.00
Individual research performance	0.0	116	40.42	40.42
	1.0	171	59.58	100.00
Individual salary	0.0	115	40.07	40.07
	1.0	172	59.93	100.00
Total		287	100.0	100.0

4.2 Correlation test

Before linear regression test, correlation test should be taken. As shown in Table 5, the correlation is significant between latent constructs, which indicates that the data could be tested by linear regression.

Table 5: Results of correlation test

	Satisfaction degree
Age	0.174**
Educational background	0.150*
Administrative position	0.144*
Professional title	-0.123*
Individual research development degree	0.166**
Individual research autonomy degree	0.158**
Individual research performance	0.202**
Individual salary	0.200**

* $p < 0.05$ ** $p < 0.01$

4.3 Linear regression test

Linear regression test was used to verify the validity of the research hypotheses. The results of linear regression are shown in Table 6. As can be seen from Table 6, age, educational background, administrative position, professional title, individual research development degree, individual research autonomy degree, individual research performance, and individual salary are taken as independent variables for linear regression analysis, while satisfaction degree is taken as dependent variable. It can be seen from Table 6 that the R-square value of the model is 0.163. When conducting F-test on the model, it is found that the model passes the F-test ($F=6.783$, $p=0.000 < 0.05$), which means that at least one of the factors could affect satisfaction degree. According to the multicollinearity test of the model, it is found that all the VIF values in the model are less than 5, which means that there is no collinearity problem. Moreover, the D-W value is 1.798, which indicates that there is no autocorrelation in the model, and there is no correlation

between the sample data, and the model is good.

The regression coefficient value of age is 0.085 ($p=0.004<0.01$), which means that age has significant and positive impact on satisfaction degree. The regression coefficient value of educational background is 0.101 ($p=0.026<0.05$), which means that educational background has significant and positive impact on satisfaction degree. The regression coefficient value of administrative position is -0.059 ($p=0.045<0.05$), which means that administrative position has significant and negative impact on satisfaction degree. The regression coefficient value of professional title is 0.060 ($p=0.060>0.05$), which means that professional title has no impact on satisfaction degree. The regression coefficient value of individual research development degree was 0.117 ($p=0.055>0.05$), which means that individual research development degree has no impact on satisfaction degree. The regression coefficient value of individual research autonomy degree is 0.119 ($p=0.046<0.05$), which means that individual research autonomy degree has significant and positive impact on satisfaction degree. The regression coefficient value of individual research performance is 0.148 ($p=0.016<0.05$), which means that individual research performance has significant and positive impact on satisfaction degree. The regression coefficient value of individual salary is 0.128 ($p=0.037<0.05$), which means that individual salary has significant and positive impact on satisfaction degree. Thus, H1, H2, H6, H7, H8 are valid.

Table 6: Results of linear regression test

	Unstandardized coefficients		Standardized coefficients	t	p	Collinearity statistics	
	B	Std. Error	Beta			VIF	Tolerance
(Constant)	2.344	0.116	-	20.161	0.000**	-	-
Age	0.085	0.029	0.162	2.914	0.004**	1.023	0.977
Educational background	0.101	0.045	0.125	2.245	0.026*	1.025	0.976
Administrative position	-0.059	0.029	-0.111	-2.015	0.045*	1.009	0.991
Professional title	0.060	0.032	0.105	1.886	0.060	1.028	0.972
Individual research development degree	0.117	0.061	0.109	1.927	0.055	1.061	0.943
Individual research autonomy degree	0.119	0.060	0.113	2.002	0.046*	1.052	0.951
Individual research performance	0.148	0.061	0.138	2.426	0.016*	1.078	0.927
Individual salary	0.128	0.061	0.119	2.096	0.037*	1.078	0.928
R ²	0.163						
Adjusted R ²	0.139						
F	F (8,278)=6.783, p=0.000						
D-W	1.798						

Dependent variable: satisfaction degree

* $p<0.05$ ** $p<0.01$

5. Conclusion

Linear regression was used to test the factors affecting the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. The test results are shown in Table 7.

The results show that age has significant and positive effect on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Educational background has significant and positive impact on the satisfaction degree of scientific

research performance evaluation of humanities and social sciences teachers in universities. Individual research autonomy degree has significant and positive impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Individual research performance has significant and positive impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Individual salary has significant and positive impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. The administrative position has significant and negative influence on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Professional title has no impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Individual research development degree has no impact on the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities. Therefore, age, educational background, individual research autonomy degree, individual research performance and individual salary are the positive influencing factors of scientific research performance evaluation satisfaction degree of humanities and social sciences teachers in universities. The administrative position is a negative factor affecting the satisfaction degree of scientific research performance evaluation of humanities and social sciences teachers in universities.

Table 7: Results of research hypothesis

Hypothesis	Path	Positive and significant impact	Test results
H1	Age—>Satisfaction degree	+	Supported
H2	Educational background—> Satisfaction degree	+	Supported
H3	Administrative position—> Satisfaction degree	+	Unsupported
H4	Professional title—> Satisfaction degree	+	Unsupported
H5	Individual research development degree—> Satisfaction degree	+	Unsupported
H6	Individual research autonomy degree—> Satisfaction degree	+	Supported
H7	Individual research performance—> Satisfaction degree	+	Supported
H8	Individual salary—> Satisfaction degree	+	Supported

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