Research on relevance between university philosophy and life activity from the perspective of philosophy

Lihua Han*

Liaoning Jianzhu Vocational College, Liaoyang, Liaoning, China

ABSTRACT: Philosophy is the core of human culture. From the perspective of philosophy, whether there is a close relationship between the university philosophy and life activity of college students, based on this issue, this paper uses the correlation analysis and relevance analysis to construct a relation matrix for the construction relationship between the university idea and life activity of college students, and obtains the correlation coefficient and relevance coefficient of university philosophy and life activity through the data collection and optimization processing, and finally analyzes the relation coefficient to obtain the following conclusion: there is a significant positive correlation and a great relevance between university philosophy and life activity of college students.

Keywords: correlation analysis; relevance analysis; life activity; university philosophy

1 INTRODUCTION

University is the second oldest institution in the Western world after the Christian church, and the higher education has been developing. In the ancient and young university, with integrity and innovation, returning to the university philosophy has become a hot topic [1]. However, university philosophy is not a unique, universal and truthful awareness, often accompanied by strong emotional feelings and individual demand circle. Some literatures perfectly illustrate the traditional university philosophy, but these words express more mission, struggling goals, rather than reality [2]. In the life of mankind, philosophy is the core of culture. From the perspective of philosophy, university philosophy can be considered from epistemology, axiology and practice theory [3]. "Life activity" should refer to all the activities that people may carry out, as well as the sentiment, experience and objective significance generated in these activities, such as people's daily life, exercise, work, and their own emotions [4].

The methods commonly used for analysis of the relationship between two things are correlation analysis [5], relevance analysis [6] and linear regression [7]. The above three methods used for analysis of the relationship between things construct the relation matrix

*Corresponding author: 81429300@qq.com

through the relationship between things, and use the intrinsic mechanism to analyze the correlation coefficient or relevance coefficient of each index. Compared with the subjective analysis, the use of mathematical algorithm to analyze the relationship between university philosophy and life activity is more objective and the result is more reliable.

2 RELATION MODEL OF UNIVERSITY PHILOSOPHY AND LIFE ACTIVITY

In the human culture system, philosophy is the core of all cultures. The core of philosophy can be divided into epistemology, axiology and practice theory. Today, to create a "first-class" university as a boom has greater impact on China's education. How to build a first-class university becomes a key development goal for a lot of medium universities. Through analysis from the perspective of philosophy, the concept of building a first-class university can be summarized as follows: to create characteristics of discipline, be committed to scientific research innovation, and rely on multiple financing. "Life activity" should refer to all activities that people may carry out, as well as the sentiment, experience and objective significance generated in these activities, such as people's daily life, exercise, work and their own emotions. After cultivation in the university, the life activity is related with

the education mode in the university. Through the use of several mathematical methods, this paper establishes the relation model of the university philosophy and life activity from the perspective of philosophy.

2.1 Correlation analysis

The concept of university philosophy is complicated and subject to politics, economy, culture and technology, and also driven by politics, economy, culture and technology. From the perspective of philosophy, university philosophy can be analyzed from the philosophy awareness, university value and university practice value, obtaining the following three basic ideas: the idea of characteristics of university discipline, university scientific research innovation idea, and idea of multiple financing in university; from the perspective of life activity of university and college students, human life activities can be divided into healthy exercise, work, emotional activity of college students from the macro point of view. To classify six symbols, the idea of characteristics of university discipline, university scientific research innovation idea, and idea of multiple financing in university are classified as the university philosophy; college students' healthy exercise, college student work, and emotional activities of college students are classified as the life activity of college students. The correlation coefficient is the indicators of correlation degree between variables. Different variables can judge the correlation between two variables by analyzing its correlation coefficient. The correlation is a positive value, indicating that there is a positive correlation between two variables. The greater the positive value is, the stronger the positive correlation is. The correlation is a negative value, indicating that there is a negative correlation between two variables. The smaller the negative value is, the stronger the negative correlation is. In order to facilitate the research, these factors are abstracted as the mathematical symbols:

Table 1. University philosophy and life activity

Abstract factor	Describe	Symbol
1	Characteristics of university discipline	F_1
2	University scientific research innovation idea	F_2
3	The idea of multiple financing	F_3
4	College Students' healthy exercise	F_4
5	College student work	F_5
6	Emotional activities of College Students	F_6

Based on this theory, this paper carries out correlation analysis of the factors abstracted from the university philosophy and life activity. In order to obtain the best results, a variety of correlation analysis methods are used. The correlation coefficient includes the simple correlation coefficient, complex correlation coefficient, partial correlation coefficient, typical correlation coefficient and coefficient of determination. The general computational formula of the correlation coefficient is as follows:

$$r_{XY} = \frac{\sum_{i=1}^{N}(X_i - \overline{X})(Y_i - \overline{Y})}{\sqrt{\sum_{i=1}^{N}(X_i - \overline{X})^2}\sqrt{\sum_{i=1}^{N}(Y_i - \overline{Y})^2}}$$

If $x = x_i - X, y = y_i - Y$, the above formula can be changed as:

$$r_{XY} = \frac{\sum xy}{nS_X S_Y}$$

The measurement units of X and Y are different, and the covariance is not solved by using (　) to represent the consistency of two variables, so there is a need to standardize the variables and then solve its covariance. Namely:

$$r_{XY} = \sum_{nS_x S_y} xy = \frac{1}{n}\sum(\frac{x}{S_X})\cdot(\frac{y}{S_Y}) = \frac{1}{n}\sum Z_x \cdot Z_y$$

The correlation coefficient matrix is solved by Pearson product-moment correlation coefficient, which is now widely used in various fields of science. In addition, it is also solved by Pearson correlation coefficient matrix, which is mainly used to solve the linear relations between two variables. The expression is as follows:

$$r = \frac{N\sum x_i y_i - \sum x_i \sum y_i}{\sqrt{N\sum x_i^2 - (\sum x_i)^2}\sqrt{N\sum y_i^2 - (\sum y_i)^2}}$$

2.2 Relevance analysis

For the factors between two systems, the measure of relational grade changing with the time or different objects is called as the degree of relevance. In the process of system development, if the variation trend of two factors is consistent, that is, the degree of synchronous change is higher, and the degree of relevance is higher; on the contrary, the lower. Therefore, the grey correlation analysis method is a kind of method used to measure the degree of relevance between factors according to the similar or different degree of the development trend between factors, that is, "grey relational degree". University philosophy and life activity are two different things. In order to analyze the relationship between the two things, they should be refined to obtain the relevant factors. The relevance between factors is researched to obtain the relevance results of university philosophy and life activity. According to the theory of grey relational degree, the expression [3] is as follows:

$$\xi_i(k) = \frac{\min_s \min_t |x_0(t) - x_s(t)| + \rho \max_s \max_t |x_0(t) - x_s(t)|}{|x_0(k) - x_i(k)| + \rho \max_s \max_t |x_0(t) - x_s(t)|}$$

In the above formula, $x_0(t)$ is a theoretical factor of the university philosophy; $x_i(t)$ is a theoretical factor of the life activity; $\min\limits_{s}\min\limits_{t}|x_0(t)-x_s(t)|$ is the minimum value of two factors; $\max\limits_{s}\max\limits_{t}|x_0(t)-x_s(t)|$ is the maximum value of two factors.

To select an indicator i of the university philosophy as the reference matrix, and j primary physicochemical substances as the comparison matrix, they are used to describe the relationship between the indicator i of the university philosophy and j indicators of the life activity.

Through taking the total score of the university philosophy as the reference matrix, and 27 primary indicators of the life activity as the comparison matrix, the analysis is given to the grey relational grade, and MATLAB programming is used to calculate $\xi_i(k)$ between indicators. Each indicator has 27 samples, and it is difficult to directly use the results to express the relational grade of indicators, so we decide to use the averaging method. The expression is as follows:

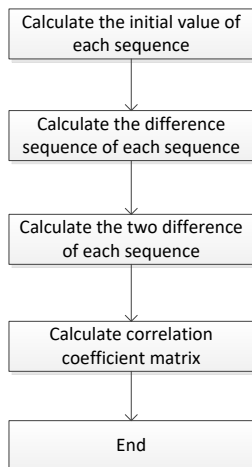$$r_i = \frac{1}{27}\sum_{i=1}^{27}\xi_i(k)$$

Algorithm flow chart:

Figure 1. Flow chart of grey relational grade

3 RELEVANCE ANALYSIS OF UNIVERSITY PHILOSOPHY AND LIFE ACTIVITY

3.1 *Solution to correlation analysis*

In order to research the relationship between university philosophy and life activity, this paper makes a survey report to collect data, and evaluates the university philosophy of part of universities and life activity of college students after graduation according to the principle implemented in the university philosophy –

the higher the degree is, the higher the score is. In order to eliminate the impact of the data dimension, the data are standardized [8]. The standardized formula is as follows:

$$\hat{X}_{ij} = \frac{X_{ij} - \bar{X}_i}{\sqrt{\sum_{j=1}^{N}(X_{ij} - \bar{X}_i)^2}}$$

After collection of data, and evaluation of the university philosophy of part of universities and life activity of college students after graduation according to the principle implemented in the university philosophy – the higher the degree is, the higher the score is, the standardized data are substituted into the correlation formula, obtaining the correlation matrix of university philosophy factors and life activity factors:

Table 2. Correlation matrix

		Subject	Innovation	Financing	Exercise	Work	Emotional
Subject	Pearson	1	.960**	.719**	.841	.921	.880
	Saliency		.000	.003	.884	.942	.070
	N	15	15	15	15	15	15
Innovation	Pearson	.960**	1	.629*	.739	.851	.480
	Saliency	.000		.012	.891	.857	.162
	N	15	15	15	15	15	15
Financing	Pearson	.719**	.629*	1	.772	.823	.951*
	Saliency	.003	.012		.799	.935	.033
	N	15	15	15	15	15	15
Exercise	Pearson	0.841	7839	.772	1	.743**	.332
	Saliency	.884	.891	.799		.002	.227
	N	15	15	15	15	15	15
Work	Pearson	.921	.851	.823	.743**	1	.400
	Saliency	.942	.857	.935	.002		.139
	N	15	15	15	15	15	15
Emotional	Pearson	.880	.480	.951*	.332	.400	1
	Saliency	.070	.162	.033	.227	.139	
	N	15	15	15	15	15	15

As can be seen from the above table, for the university philosophy factors, there is a significant positive correlation between the idea of characteristics of discipline and scientific research innovation idea, with the correlation value of 0.96; there is a significant positive correlation between the idea of characteristics of discipline and multiple financing, with the correlation value of 0.719; there is a significant positive correlation between the scientific research innovation and multiple financing, with the correlation value of 0.629. For the life activity factors of college students, there is a significant positive correlation between the healthy exercise and work, with the correlation coefficient of 0.743; the correlation coefficient of healthy exercise and emotional activities is 0.322; the correlation coefficient of work and emotional activities is 0.4. Three basic concepts of the university philosophy present a very high correlation, indicating that the university

philosophy should be improved and the three basic concepts need to be developed rapidly. The three basic concepts and life activity of college students present a very high correlation, which are at the level of above 0.7, indicating that the improvement of university philosophy has a high correlation with the life activity of college students.

3.2 *Solution to correlation analysis*

Gray correlation matrix can be obtained by using the data of investigation report and gray correlation calculation model [9]:

Table 3. Grey incidence matrix

Subject	Innovation	Financing	Exercise	Work	Emotional
Innovation	1	0.66796336	0.672476234	0.674936413	0.676980287
Financing	0.66796336	1	0.684684331	0.685513563	0.775673683
Exercise	0.672476234	0.684684331	1	0.687824564	0.775673683
Work	0.674936413	0.685513563	0.687824564	1	0.84540436
Emotional	0.676980287	0.775673683	0.775673683	0.84540436	1

As can be seen from the above table, the relevance between the characteristics of discipline and healthy exercise is 0.672476234; the relevance between the characteristics of discipline and work is 0.674936413; the relevance between the characteristics of discipline and emotion is 0.676980287; the relevance between the scientific research innovation and healthy exercise is 0.684684331; the relevance between the scientific research innovation and work is 0.685513563; the relevance between the scientific research innovation and emotion is 0.775673683; the relevance between the multiple financing and healthy exercise is 0.775673683; the relevance between the multiple financing and work is 0.84540436; the relevance between the multiple financing and emotion is 0.676980287. Through analysis of data, there is a very high correlation between university philosophy and life activity of college students, which is mostly more than 0.68, with a strong correlation between them [10].

4 CONCLUSION

From the perspective of philosophy, this paper analyzes the correlation between university philosophy and life activity and uses the correlation analysis and gray correlation calculation model to construct the correlation matrix and correlation coefficient matrix of university philosophy and life activity, and collects data in the form of developing investigation reports to analyze results. The data results show that, there is a strong correlation between the ideas of characteristics of university discipline, university scientific research innovation idea, and idea of multiple financing in university; there is a strong correlation between university philosophy and life activity of college students after graduation; the improvement of university philosophy affects the life activity of college students.

ACKNOWLEDGEMENT

REFERENCES

[1] Hu Jun. 2011. Philosophical foundation of Cai Yuanpei's university philosophy J. *Humanities Journal*, (05): 37-46.

[2] Liu Yongfang. 2010. University philosophy and mission in philosophy logic - Interpretation of Jaspers higher education thought. *Journal of Jiangsu Institute of Education (Social Science)*, (05): 42-45+140.

[3] Zhou Jingchun. 2009. *Survey of Cultural Philosophy of Chinese University Philosophy*. Northeast Normal University.

[4] Zhang Hua. 2009. University: survival community of pursuit of truth - Interpretation of Jaspers university philosophy. *Journal of Hebei Normal University (Philosophy and Social Science)*, (05): 46-50.

[5] Deng Yongqin, Kang Lili. 2015. Experimental evidence of the relevance of level information value of fair value in China's financial industry. *Accounting Research*, (04): 3-10+95.

[6] Wang Qisheng. 2014. *Research on the Overall Least Squares Adjustment Algorithm and its Application of the Linear Regression Model*. Kunming University of Science and Technology.

[7] Ren Guangqian, Wang Minda. 2010. Empirical research on political relevance and performance of China's listed companies. *Journal of Shanxi University of Finance and Economics*, (09): 80-88.

[8] Wei Yong. Nature of comprehensive relevance of the proximity relevance and similarity relevance. China Advanced Science and Technology Center. *Proceedings of the 25th National Conference on Gray Systems*. China Advanced Science and Technology Center: 2014: 6.

[9] Li Guang, Wu Qizong. 2011. Research on standardization of comprehensive evaluation data based on consistent conclusion. *Mathematics Practice and Cognition*, (03): 72-77.

[10] Li Ling. Empirical research on the relevance between the managerial incentive and corporate performance under the modern corporate governance. China Accounting Society, Education Branch of China Accounting Society. *Proceedings of the second meeting of the sixth session of the Council in China Accounting Society and 2004 academic annual conference* (1). China Accounting Society, Education Branch of China Accounting Society: 2004: 8.