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The evaluation and quantitative model of human happiness from a philosophical perspective

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Abstract

The theory of happiness originated in ancient Greece. Traditional happiness theories mainly include three aspects: perceptualism, rationalism and Christian theology, while the research on happiness in modern society is mainly concentrated in the fields of psychology, sociology and economics. Especially in the information age, under the premise of greatly improving material wealth, people are paying more and more attention to the so-called sense of happiness, which is not only a factual judgment of the objective conditions and state of life, but also A value judgment on the subjective meaning and satisfaction of life. The happiness index is a subjective index value that measures the specific degree of this feeling. In this article, based on the online survey data given in the attached table, by investigating a large number of literature, factual materials and referring to the theory of authoritative persons in this area, firstly, a relatively reasonable index system has been established, which is universally popular. Use Bayesian mathematics and establish mathematical model 1 to measure happiness index based on the above indicators. Based on the survey of teachers and students in Jiangxi area about happiness, the analytic hierarchy process is used to obtain the weights and the weighted average method is used to obtain the happiness index. The second model is used to find the happiness index of the teachers and students in the area, and the results are displayed by the model. , To find out the main factors affecting their happiness. Through the description of the characteristics of the built model: the advantages and disadvantages of the model, the scope of use, modeling ideas or methods, algorithm characteristics, result verification, etc. It is concluded that Model 1 can better measure the happiness index of this group in a specific group.

Keywords: Happiness Index, Index System, Bayesian Formula, Analytic Hierarchy Process, Weighted Average Method

1. Introduction

With the reform and opening up, my country's economy has made rapid progress, and people's material lives have been greatly improved, but with that, more and more people are beginning to think about our ultimate goal of vigorously developing the economy. Our beloved Premier Wen Jiabao has repeatedly emphasized in recent years: Everything we do is to make our people's lives happier. What is happiness? It is an experience, an organic unity of satisfaction with the outside world, happiness and value. The national happiness index is a specific indicator to measure the degree of this positive emotional experience. If the GDP GNP is a measure of the wealth of the country and the people, the people index can measure the happiness of the people. It can monitor the economic and social operation. Can understand the people's life satisfaction. [1]

Throughout the more than one hundred years of the development of psychology, it can be found that empirical research plays an important role in the development of psychology. The method of empirical research in psychology has developed with the development of philosophical methodology. Therefore, to explore the relationship between positivism research methods and behaviorism schools,

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we can start from analyzing the relationship between positivism methodology and behaviorism. [2]

The method of empirical research is guided by positivism, and it develops with the development of positivism methodology. Positivism is a philosophical trend advocated by French philosopher Comte. It emphasizes that knowledge or science is limited to facts that can be observed or experienced. [3]

Positivism has experienced three different forms in its development process, and different forms of positivism have had an important impact on different schools of psychology. The first form is social positivism advocated by Comte. He proposed positivism with "positivity principle" as the core, and believed that all scientific knowledge must be based on empirical facts from objective observations and experiments. Mach inherited Comte's positivism thinking, and proposed that science is only a summary description of facts, and human experience is regarded as a neutral element of perception. The third generation is the Vienna Group who proposed logical positivism. They developed the principle of indirect observation and empirical research, and divided the possibility of verification into the possibility of empirical verification and the possibility of logical verification. [4]

However, there are still many problems in the process of statistic of the National Happiness Index. They directly affect the economic development of our country and the people's satisfaction with life. Therefore, how to realize the evaluation of happiness scientifically, reasonably and fairly has become a very critical link in the process of improving our country's economic development.

For this reason, it is imperative to establish a scientific evaluation model. [5-15]

2. Model assumptions

2.1 Model One

1. In the selection of indicators, only the influence of Internet democracy factors are considered, and the objective factors of reality are ignored.

2. It is assumed that the statistical tables are the real results of the surveyor, and the influence of each region is ignored.

3. In the process of extracting principal components, the influence of information loss on the model results is not considered.

4. The questionnaire is random and the netizens are evenly distributed.

2.2 Model 2

1. Need to understand as much as possible the main factors that people think affect happiness within a certain range.

2. Regarding the object as a system, install a decomposing, comparing, judging, and comprehensive way of thinking to make decisions-system analysis.

3. Construction of mathematical model

3.1 Parameter description

Z indicator factor set:

First-level indicators:

Z_{1a} ----Select the total number of votes with a score of 1 for the secondary index;

Z_{2a} ----Select the total number of votes with a secondary index score of 2;

Z_{3a} ----Select the total number of votes with a secondary index score of 3;

Z_{4a} ----Select the total number of votes with a secondary index score of 4;

Z_{5a} ----Select the total number of votes with a secondary index score of 5;

K------The score of each indicator;

m------the total amount of samples;

n------the number of indicators;

Xi-----Bayesian number;

$P_{\theta\pi}$ ----Happiness index;

λmax-----Maximum eigenvalue;

A----------Judged weight matrix;

CI---------A consistency index;

RI----------average consistency index;

w_n --------The weight of the element in the whole;

α_n -------The ratio of satisfaction among n factors;

β_n -------The general ratio among n factors;

σ_n --------The proportion of dissatisfaction among n factors;

3.2 Problem analysis

3.2.1 Question 1 Establish an index system for evaluating happiness and establish a Bayesian estimation model for measuring happiness based on the index (model 1)

3.2.1.1 Quantification of Bayesian estimation model indicators

The characteristic of Bayesian statistics is to use the prior distribution formed by prior information to participate in statistical inference. It was the most influential and representative predictive mathematical model of the customer satisfaction index. This model takes into account that the happiness index of netizens is essentially a Bayesian model with subjective multi-level quantitative scoring. Also refer to the "Bayesian Estimation of Beijing Happiness Index" in the appendix. We think this model is the most appropriate. As the attached information is derived from the specific principles. Needless to say, just use its conclusion. Before using this model, we must first quantify the netizen survey indicators. as follows:

Table 1: Quantified values of happiness

Content	Quantitative value (score)
Very happy	5
Relatively happy	4
general	3
Not very happy	2
Very unhappy	1

3.2.1.2 The establishment of a well-being index system

The attached table gives a series of online survey data. First, we need to establish an indicator system for these data types. Based on a large number of references, we have screened out the basic principles of fair and reasonable selection of indicators as follows:

1 Principle of pertinence. Closely follow the government as the goal, and focus on the screening indicators of the aspects of government public management that can improve the happiness of residents.

2 Scientific principles. It not only can scientifically reflect the connotation of residents' happiness at this stage, but also is consistent with the goal of constructing an index system. It can use the statistical performance of the selected index to reflect certain problems and provide a basis for improving the efficiency of government services.

3 Principle of feasibility. Can organize and implement surveys designed by the constructed indicator system, the selected indicators are easy to be recognized, can be accepted by the interviewees and effective feedback.

4 The principle of simplicity. The index selection is closely related to the target, avoiding complexity and simplifying, and the survey to be carried out according to the established index system can not only serve the expected purpose of the survey, but also save costs as much as possible.

Based on the above principles, the indicator system we established is as follows:

Table 2 The evaluation index system of netizens' happiness

Netizens' happiness evaluation index system		
First-level indicators (5)	Secondary indicators	Points
Physical and mental health	Spare time	1-5
	Physical conditions	1-5
	Life and work pressure	1-5
	Life attitude	1-5
	other	1-5
Self-actualization	Personal accomplishment	1-5
	Career prospects	1-5

	What kind of person you are	1-5
	other	1-5
Interpersonal adaptation experience	Relationship with family	1-5
	Relationship with neighbors	1-5
	Relationship with colleagues	1-5
	other	1-5
	Relationship with friends	1-5
Comfortable environment	Easy to travel in the city	1-5
	Urban social security	1-5
	city environment	1-5
	The rhythm of life	1-5
	other	1-5
Material security	Economic development	1-5
	Housing conditions	1-5
	Income status	1-5
	other	1-5

The above table lists the settings of various indicators for netizens. In fact, we only need to use secondary indicators to use the Bayesian model, which is derived as follows:

Assume $Z_{ia} = \sum_{j=1}^{j=n} Z_{ij}$,(i=1.....K)。 Z_{ia} Expressed as the total number of votes selected for all indicators with a score of i, where n is the number of secondary indicators, Z_{ij} Denoted as the number of votes with i-th index score.

By Bayesian estimation algorithm,

Xi= $\frac{1}{m} Z_{ia}$, Where Xi is the Bayesian estimate.

It is estimated by Bayes (see appendix for the principle) happiness index:

$$P_{\theta\pi} = E(\theta\pi, x) = \int_{\theta} \theta\pi(\theta, x) d\theta$$

$$= \frac{Xi + (1/2m)}{n + ((k+1)/2m)}$$

That is, the happiness index can be obtained by simplifying the formula:

$$P_{\theta\pi} = \frac{\frac{1}{m}\sum Z_{ij} + (1/2m)}{n + ((k+1)/2m)},$$

This happiness index is the percentage distribution of happiness in a group at different stages.

Model test analysis:

n =18

m =1977

K=5, the scale adopts a 5-level scale.

Z_{ia} =[4597 4435 12306 12243 45977]；

Bring into the equation

$$P_{\theta\pi} = \frac{\frac{1}{m}\sum Z_{ij} + (1/2m)}{n + ((k+1)/2m)}, \quad (i=1.....K)$$

Calculated with Matlab:

$P_{\theta\pi}$ =[0.0564 0.1246 0.3458 0.3440 0.1292] (in order of "unhappy"..... "very happy" ratio).

And the overall happiness PTable I=[0.056 0.1244 0.3459 0.3439 0.1289]

The comparison between the two is as follows:

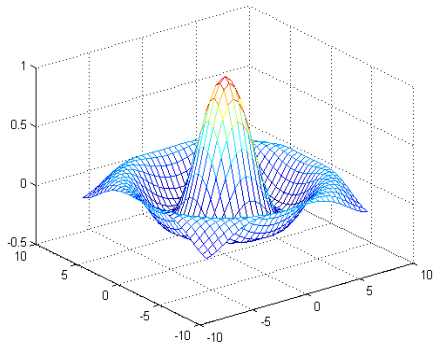

Figure 1 Happiness

It can be seen from the table that the calculation results of the model are almost the same as the statistical values of the total happiness of netizens in Table 1 in the appendix, with an error of less than 0.5%, which proves the feasibility and accuracy of the Bayesian model of this model, and Analysis by results

$P_{\theta\pi}$ =[0.0564 0.1246 0.3458 0.3440 0.1292];

indicates that the following figure among netizens

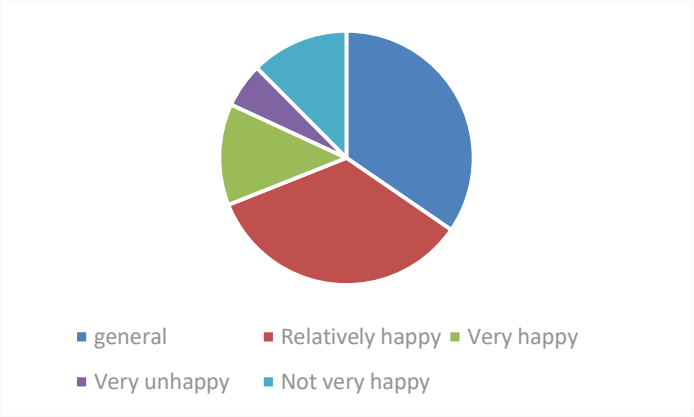

Figure 2 Satisfaction level

Only 5.64% thought they were very unhappy, and 12.92% thought they were very happy. Those with an index greater than 34% account for more than 80%. Therefore, on the whole, netizens are more satisfied with their lives.

3.2.2 Question 2 Finding information to establish a mathematical model of the happiness index of teachers and students in a certain area and find out the main factors affecting their happiness

3.2.2.1 Find information

Happiness index is a measure of people's sense of happiness, and it is a core indicator reflecting people's subjective quality of life. As the most important non-economic factor, it is a "barometer" of social operation and people's living conditions. Especially with the rapid development of society, contemporary college teachers and college students are facing pressures from study, work, family, marriage, love, and interpersonal relationships, and the pursuit of happiness is undergoing subtle changes. In order to understand the happiness status of contemporary students and teachers, our group investigated the happiness status of teachers and students in Jiangxi area, and used the analytic hierarchy process and weighted average method to obtain the model of the happiness index of teachers and students in this area.

3.2.2.2 Model establishment

1. Analytic hierarchy process for weight

We divide the decision-making problem into three levels: goal formation, criterion level, and plan level. Each level has several elements. The relationship between each level is connected by a straight line. Through one-by-one comparison, we can get the goal of each level. The weight and the weight of several elements in the upper layer, and the combination of these two weights determines the goal of happiness.

Using the analytic hierarchy model, it can be roughly divided into 4 basic steps.

1)Establish a hierarchical structure model (see Figure 1)

According to the attributes of the given factors, they are divided into the highest level, the middle level and the lowest level. Elements at the same level are a type of standard, which dominates the elements at the next level at the same time, and at the same time is controlled by the upper level. This top-to-bottom relationship is called a ground connection level.

There is only one element at the highest level, which is the predetermined goal of the problem, which represents the purpose of solving the problem, so it is called the target level.

The middle layer is the plan and measure that can be adopted to achieve the goal. It can contain several levels, but the same level must be the factors that affect the target level under the same conditions.

The bottom layer is the alternative solutions and solutions to achieve the goal, so it is called the solution layer.

2) Construct a pairwise comparison judgment rectangle

Suppose we want to compare n factors X={x1,x2... xn) the ratio of influence on target Z,

The matrix of pairwise comparison judgment:

A = (aij)n * n(1)

Where aij> 0, aji =11aij(i≠j)

aij = 1 (i,j = 1,2,… n) (2)

The matrix that makes (2) holds is called the positive and negative comparison judgment matrix:

Among them, aijuses the traditional 1-9 and its reciprocal as the scale, if it is between the immediate value, the intermediate value 2, 4, 6, 8 is used (see Table 3)

Table 3 Value method of comparison scale

x_i / x_j	Equal	Too Strong	Strong	Very Strong	Absolutely Strong
a_{ij}	1	3	5	7	9

Psychologists believe that there should be no more than 9 factors for pairwise comparison. Use 1~3,1~5,…1~17,…,1p~9p (p=2,3,4,5), d+0.1~d+0.9 (d=1,2,3,4) And other 27 comparison scales to construct a pair of comparison matrix for several examples, calculate the weight vector, and compare with the actual result, 1-9 scale is better

$$A=\begin{bmatrix} \frac{w_1}{w_1} & \frac{w_1}{w_2} & \cdots & \frac{w_1}{w_n} \\ \frac{w_2}{w_1} & \frac{w_2}{w_2} & \cdots & \frac{w_2}{w_n} \\ \cdots\cdots & & & \\ \frac{w_n}{w_1} & \frac{w_n}{w_2} & \cdots & \frac{w_n}{w_n} \end{bmatrix}$$

3) Hierarchical list sorting and its consistency check

(1) Hierarchical single sorting. First touch the maximum eigenvalue λmaxof the judgment matrix A, and then use:

AW = λmax W (3)

(2) Consistency inspection. First calculate the consistency index CI of A, and define

$$CI = \frac{\lambda \max - n}{n - 1} \quad (4)$$

In the formula, n is the order of A. When CI-0, that is $\lambda \max$ = n, A has complete consistency. The greater the CI, the worse the consistency of A.

Compare CI with the average random consensus index RI, let CR = $\frac{CI}{RI}$, And call RI the random consistency ratio. When CR <0.10, A has a satisfactory consistency, otherwise A must be readjusted to know that it has a satisfactory consistency. This will calculate $\lambda \max$ The corresponding feature vector W, after being standardized, can be used as the weight of the single-level ranking.

Table 4 Randomness index RI value

Order n	1	2	3	4	5	6	7	8	9
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45

(4) Level total ranking and its consistency test

Using the result of single ordering of all levels in the same level, calculate the weight of the importance of all elements of this level to the upper level. This is the total level ordering. Set all elements of the previous level A_1 A_2 , … A_m The total ranking of has been completed, and the seven weights correspond to a_1 a_2 … a_m Elements with Benzen B_1 B_2 B_{n_1} The single sort result is b_{1j} , b_{2j} , ⋯ , b_{nj} 。

The overall ranking consistency index is

$$CI = \sum_{j=1}^{m} ajCIj \quad (6)$$

RIj

Where For aj The random consistency index of the judgment matrix in the corresponding B level.

The random consistency ratio of hierarchical comprehensive sorting is

$$CR = \frac{CI}{RI} \quad (7)$$

when $CR \le 0.10$ When the calculation result of the total ranking is considered to be satisfactory

(2) Weighted average mean to find happiness index

The weighted average is the average of different proportions. According to the different proportions of the original data, the influence of indicators with different weights on the happiness index can be calculated more comprehensively and reasonably.

$$H = \begin{cases} \sum_{r=1}^{n} w_r \alpha_r & \text{Happiness index is the proportion of satisfaction} \\ \sum_{r=1}^{n} w_r \beta_n & \text{Happiness index is a general ratio} \\ \sum_{r=1}^{n} w_r \sigma_n & \text{Happiness index is a general ratio} \end{cases}$$

3.2.2.3 Problem solving

1. The establishment of the student happiness index model in the region

(1) We apply the model we have established to solve the measurement of the happiness index of Jiangxi students, and use the analytic hierarchy process to establish the proportion of each index in the happiness index. According to the questionnaire (Appendix 1), an index system that affects the happiness index of students can be established.

Table 5 Happiness Index System

Indicators that affect happiness	
First level indicator	Secondary indicators
Family Factors	Relationship with family
	Family influence
personal reason	Health status
	Appearance factors
	Disposable expenses
	Own character
Relationship status	Lovers get along
	Development desire
	Degree of love
Interpersonal communication	Non-school personnel
	Class bedroom classmates
	School teachers
Self-realization value	Goals after graduation
	Professional development
	Future expectations
	the value of life

The Hierarchical Model of Student Happiness Index

Using Yaaph level analysis software, by determining the weighting degree of different happiness indexes, and adopting

The geometric method forms a judgment matrix for different indexes, and the weights are as follows after passing the conditions:

Table 6 The weight of each level indicator in the happiness index

Factors affecting student happiness index	Personal reason	Family factors	Relationship status	Interpersonal communication	Self-realization value	Wi

Personal reason	1.0000	2.2255	1.2214	1.2214	2.2255	0.2901
Family factors	0.4493	1.0000	1.4918	1.4918	0.6703	0.1795
Relationship status	0.8187	0.6703	1.0000	0.6703	0.5488	0.1412
Interpersonal communication	0.8187	0.6703	1.4918	1.0000	1.0000	0.1866
Self-realization value	0.4493	1.4918	1.8221	1.0000	1.0000	0.2024

Table 7 The weight of secondary indicators in personal factors

Personal reason	Health status	Appearance factors	Disposable expenses	Own character	Wi
Health status	1.0000	1.8221	1.4918	1.4918	0.3423
Appearance factors	0.5488	1.0000	0.6703	0.5488	0.1617
Disposable expenses	0.6703	1.4818	1.0000	1.4918	0.2666
Own character	0.6703	1.8221	0.6703	1.0000	0.2294

Table 8 Weights of secondary indicators in household factors

Family Factors	Relationship with family	Family influence	Wi
Relationship with family	1.0000	1.2214	0.5498
Family influence	0.8187	1.0000	0.4502

Table 9 The weight of the secondary indicators in the relationship status

Relationship status	Lovers get along	Development expectations	Degree of love	Wi
Lovers get along	1.0000	2.2255	1.8221	0.4983
Development expectations	0.4493	1.0000	0.6703	0.2094
Degree of love	0.5488	1.4918	1.0000	0.2923

Table 10 The weight of secondary indicators in interpersonal communication

Interpersonal communication	Not in school	Classmates in the dormitory	Relationship with the teacher	Wi
Not in school	1.0000	0.6703	0.5488	0.2302
Classmates in the dormitory	1.4918	1.0000	1.8221	0.4484
Relationship with the teacher	1.8221	0.5488	1.0000	0.3213

Table 11 The weight of secondary indicators in self-actualization value

Self-realization value	Goals after graduation	Professional development	Future expectations	Value of life	Wi
Goals after graduation	1.0000	1.8221	0.8187	0.5488	0.2253
Professional development	0.5488	1.0000	0.6703	0.5488	0.1588
Future expectations	1.2214	1.4918	1.0000	0.4493	0.2253
Value of life	1.8221	1.8221	2.2255	1.0000	0.3906

Combining the above-mentioned various primary and secondary indicators that affect student happiness, the following table can be obtained

Table 12 The weights of various indicators of student happiness in the happiness index

First level indicator	Secondary indicators	The weight of secondary indicators in primary indicators u_i	Weight wi in the happiness index
Family Factors 0.1795	Relationship with family	0.5498	9.87
	Family influence	0.4502	8.08
personal reason 0.2901	Health status	0.3423	9.93
	Appearance factors	0.1617	4.69
	Disposable expenses	0.2666	7.73
	Own character	0.234	6.79
Relationship status 0.1412	Lovers get along	0.4983	7.04
	Development expectations	0.2094	2.96
	Degree of love	0.2923	4.13
Interpersonal communication 0.1868	Non-schoolers	0.2302	4.30
	Class bedroom classmates	0.4484	8.38
	teacher	0.3213	6.00
	Professional development	0.1588	3.21
	Future expectations	0.2253	4.56
	the value of life	0.3906	7.91

The weight of each secondary happiness index in the table $w_i =$ The weight of the primary index in the total happiness index * The weight of the secondary index in the primary index.

(2) Happiness Index H

It is calculated using the weighted average method as follows:

Table 13 Calculation of happiness index

Indicators that affect happiness	u_i	wi	satisfaction%	general%	Dissatisfied%
Relationship with family	0.5498	9.87	44	52	4
Family influence	0.4502	8.08	25	59	15
Health status	0.3423	9.93	64	20	16
Appearance factors	0.1617	4.69	53	31	16
Disposable expenses	0.2666	7.73	20	74	6
Own character	0.234	6.79	24	74	2
Lovers get along	0.4983	7.04	65	27	8
Development expectations	0.2094	2.96	37	55	8

Degree of love	0.2923	4.13	29	51	26
Non-schoolers	0.2302	4.30	10	53	37
Class bedroom classmates	0.4484	8.38	34	43	23
teacher	0.3213	6.00	6	72	22
Goals after graduation	0.2203	4.46	47	38	14
Professional development	0.1588	3.21	39	36	5
Future expectations	0.2253	4.56	53	31	16
the value of life	0.3906	7.91	57	23	9

Table 14 The happiness index of the region obtained through the survey

H	happy	general	not happy
	53.83%	43.68%	2.43%

Based on the data in the above table, the happiness index of students in the region is as follows:

$$H = \begin{cases} \sum_{r=1}^{n} w_r \ \alpha_r & = 42.57\% \text{ happiness} \\ \sum_{r=1}^{n} w_r \ \beta_n & = 41.86\% \text{ Fair} \\ \sum_{r=1}^{n} w_r \ \sigma_n & = 13.48\% \text{ unhappy} \end{cases}$$

The happiness index of the students in this area calculated by analyzing the collected data by the analytic hierarchy process is basically consistent with the happiness index of the students in the area obtained from the survey in the questionnaire, which confirms the correctness of the model.

2. Find the happiness index of teachers in the area

(1) The indicator system of teacher happiness is as follows:

Table 15 Teacher happiness index system

Happiness index	Physical and mental health	Entertainment
		Physical conditions
		Leisure time
		Hobby
		Emotional state
	Family happiness	Family feeling
		Harmony with family
		Marriage, love status
		Children's education
	Work and income	Teaching satisfaction
		Research status
		Social status
		Work paid and rewarded
		Income
		Further study opportunities
		Satisfaction of the administrative system
		Satisfaction with welfare and retirement system

	Realization of personal value	Compare with others' advantages
		Confidence in achieving goals
		Personal ability
		Confidence level
		Future expectations
	Interpersonal system	Respected situation
		Get help when in difficulty
		Relationship with friends
		Relationship with colleagues
		Degree of trust

(2) According to the analytic hierarchy process model we have established, the happiness index of teachers in this area is almost the same as the actual measured value in this area.

3. According to the results shown by the model, the factors affecting the happiness of teachers and students in the place are as follows:

1) Factors affecting teacher happiness:

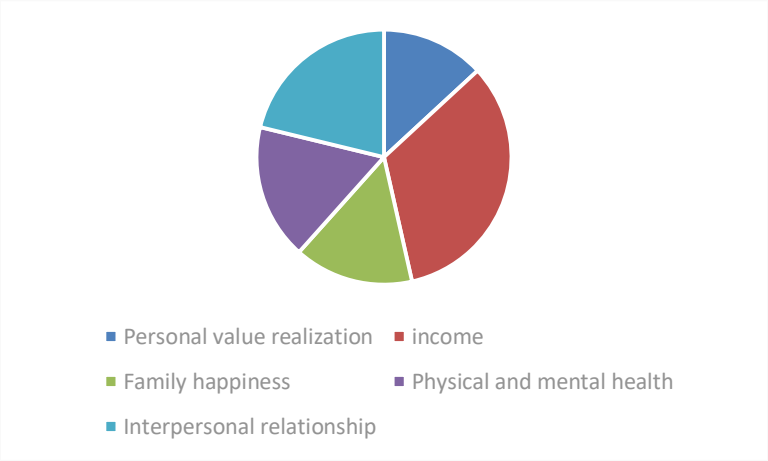

Figure 3 The structure of factors affecting teacher happiness

2) Factors affecting students' happiness:

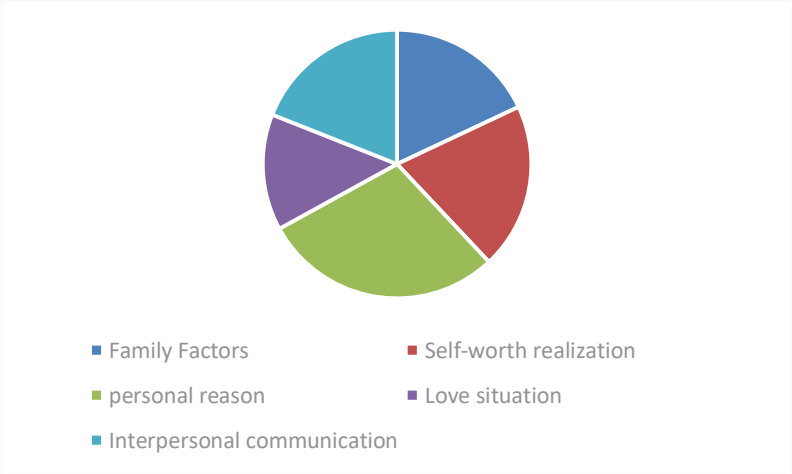

Figure 4 The structure of factors affecting student happiness

3.2.3 Discuss the generalization of the model

The indicator system we have established is based on the search for a large amount of data and careful analysis, based on the recent survey results of domestic authorities on citizens, and after considering comprehensive factors, the basic principles of four indicator selection are basically referred to: 1 the principle of rightness; 2 the principle of science; 3 the principle of feasibility; 4 the principle of simplicity. The index system established under this premise can be extended to a more general population.

The advantage of Model 1 is that the Bayesian model can be used to estimate the proportion of happiness in different stages of the different happiness experiences of the netizen group. And after inspection, more correct values can be obtained, which is convenient for management departments to obtain basic data. However, the target of this model is single, and the selection of indicators does not involve the weighting factors of its main components. Therefore, its use has restrictions and preconditions. Therefore, it cannot be extended to more general populations, but for fixed For a single population, this method is very desirable.

Model 2 The model established by the analytic hierarchy process and the weighted average method can be extended to a more general population.

The analytic hierarchy process has the following advantages: 1. It is systematic that the object is regarded as a system, and the decision is made by installing decomposition, comparison, judgment, and comprehensive thinking; 2. The combination of qualitative and quantitative practicality can handle the problems that cannot be solved by traditional optimization methods. Questions; 3. Conciseness The calculation is simple and the results are clear, which is convenient for decision-makers to directly understand and master.

The premise that our model can be implemented is: we need to understand as much as possible the main factors that people think affect happiness within a certain range. Then use the analytic hierarchy process to decide which is more important, which is the weight problem mentioned above. Although the process of analytic hierarchy process is subjective, after the comparison between each first-level indicator, the pairwise comparison between the second-level indicators and the second-level indicators, after multiple comparisons one by one, it can be more objective and accurate. Calculate the weight of each indicator. Finally, according to the size of the weight, the weighted average method is used to get the proportion in the total happiness index.

If the survey area is different, the population classification is different, the happiness indicators that affect their happiness index and their weight will change, but this does not prevent our model from using. Because the analytic hierarchy process can be compared from a series of interactive indexes to get the weight, as for the series of moments to make changes according to the scope of application. The index system we have established is not a specific aspect and a fixed number of indicators, but a set of indicators that can be analyzed in different situations and in different regions for their characteristics and their mutual influence. Under this premise, the use of our model has a wider range.

4. **Conclusion**

Because the operation of the analytic hierarchy process is relatively simple, the happiness index of a region can be obtained according to the questionnaire of a region, and a more accurate judgment can be made about the happiness of a certain individual, which also increases the use of this model for more general populations. The feasibility. The establishment of a happiness index is generally recognized in my country. The happiness index can reflect people's real life attitude and life needs to a certain extent, and it has been universally recognized by people. Happiness is based on people's emotions and emotions. It is a measure of people's feelings and experiences of their own survival and development.

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