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ASSESSING THE QUALITY OF URBAN LIFE IN CHINA

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ABSTRACT: The quality of life is considered as the distributed degree of social resources with significance to the urban residents as a whole. There are three features about the study of the quality of life by means of objective method. First, objective methid is based on the government publication of statistics from which the information of social environment influencing people's life can be obtained by systematic analysis. Second, as a result of social policy and planning development, the quality of life studied by objective method can provide scieatific basis for regulating and making policy. Third, the objective method emphasize that the improvement of the quality of life mainly depends on the effort from the government so as to set up a coordinatly developed environment of community.

On the basis of relevant data from the 1991 Yearbook of Urban Statirtics of China published by Statistics Press of China, and using spss, the quality of urban life in China is evaluated. Seventy four cities are selected from 467 cities in China. These cities are basically representative of the present urban development in China. There is a significant correlation between the quality of urban life and the level of economic development.

KEY WORDS: quality of life, quality of urban life, urban development, urban population

The study of the quality of life is a product of the changing ideas about the development of society. According to the traditional idea, the progress of a society can be only evaluated by rapid economic growth which is believed to bring about social prosperity, human happpiness, and political stability. However, especially entering the 1960s, the pure pursuit of economic growth did not lead to all–round development of society. On the contrary, there came forth a series of intensified social problems, such as environmental pollu-

tion, social turmoil, urban crisis, and resource exhaustion. Therefore, the economic success as measure of development of society was challenged by the severe social reality, and the single-minded focus on economic growth was changed to consideration of the all-round development of society. According to modern idea, as long as the harmonious development of ecomomy, population, resource, and environment as a whole was taken into account on the basis of anthropocentric perspective, the lasting, stable and healthy development of society can be achieved. Under this profound social background, since the mid 1960s, the study of the quality of life as assessment of the state of society has become a conspicuous study field which has firstly arisen in industralized countries. By comparison, the quality of life did not study until the 1980s in China. Some attempts to develop systematic evaluation of the quality of life in provinces have made use of constructing the system of social development indicators, and some attempts to catch hold of the feeling of life from residents have made use of questionary survey. However, according to existing state of research conducted in China, more effort has to be made in the theoretical construction, and assessing approaches, and the study of assessing the quality of urban life at national scale is still a blank spot in China. Therefore, the study in this field is significant to realize the state of urban development and to make effective policy to improve the quality of urban life in China.

I. THEORETICAL DISCUSSION ON THE QUALITY OF LIFE

The quality of life is usually defined from different research perspectives. However according to empirical study, there are two viewpoints on the study of the quality of life. One viewpoint focuses on the objective side of the quality of life such as food and housing, emphasizes the study of the state of life environment based on the government publication of statistics. The other viewpoint, confining the quality of life to its subjective side such as attitude and feelings, emphasizes to understand the feelings of satifaction, happiness of life with the help of questionary survey.

Here, we believe that the quality of life is the distributed degree of social resourses with significance to the urban residents as a whole. In the definition, "social resourses with significance" means those features of social enviromnent which do their work in the life of urban residents. They are objective, and easy to be observed, thus the quality of urban life can be understood based on the social environment. "Urban residents as a whole" emphasize the general level of the quality of urban life at macro scale other than individual characteristics. The concept above exposed the substantial content of the quality of life from objective perspective. There are 3 features about the study of the quality of life by means of objective method. First, objective method is based on the government publication of statistics from which the information of social environment influencing people's life can be obtained by systematic analysis. Second, as a result of social policy and planning development, the quality of life studied by objective method can provide scientific basis for regulating and making

policy. Third, the objective method emphasize that the improvement of the quality of life mainly depends on the effort from the government so as to set up a coordinatly developed environment of community. By comparison, there are some shortcomings in subjective method. First, there exist normal potential biases in questionary survey. N. M. Dstroot and W. W. Snyder(1985) demonstrated that about 40% of the difference in satisfaction between the French and American people is due to cultural bias. Second, subjective method is subject to criteria of living, individual psychology, age, sex, and aspiration, so its reliability and validity are in question. Third, the collection of data of subjective side is both costly and time-consuming. Fourth, repeatedly found results from subjective method is not directly useful for policy-makers.

However, objectve and subjective assessment are certainly related to each other, at last at the national scale, Gorld (1969), Liu (1976) and Lioyd (1976) respectively demonstrated the existence of a strong relationship between the two methods.

II. SELECTION OF INDICATORS FOR ASSESSING THE QUALITY OF URBAN LIFE

In the strict sense of the word, the concept of the quality of life itself can not be measured directly. Since the 1970s, however, the convergence of the study of the quality of life and social indicator movement has opened up a path for the measurement of the quality of life. It is needless to say that social indicators provide an indispensable instrument for the quantitative study of the quality of life.

According to the methodology of social indicators, the selection of the indicators of the quality of life is mainly involved in 3 essential steps: first, specifying the areas of the quality of life; second, achieving valid measurement of the specified areas, that is, collecting and reducing them into valid statistics; third, setting up the orientation of indicator to which statistics indicate better or worse in the quality of life.

Determination of the important areas of the quality of urban life is the first step in constructing urban indicators. Different efforts in this step have resulted in varied areas of concerns. The International Labor Organization (1938) set forth 4 criteria for this purpose:

1) Its importance in the well-being of the individual according to generally accepted norms.

2) How widely its deficiency in relation to "felt" wants constitutes a problem.

3) The extent to which its deficiency could be remedied by human action.

4) Its susceptibility to statistical measurement.

Even so, there are still different selections of its components on the basis of criteria above. Generally speaking, the variation of list may reflect developments in measurement, new areas of concern, and advance in social science.

Here, the areas of the quality of life are determined on the basis of definition of the

quality of life. They are: housing and life service, economic life, health, environment, education, recreation, social order. But not all the areas of concern are included. For example, as to "social participation", there are no appropriate indicators. However, the list indeed includes the areas which are generally considered important.

When the areas of concern have been selected, we construct a number of indicators in each area. Two principles are taken into account in the selection of indicators. The first principle is incidence which means that indicators are selected on the basis of their relationships to the quality of life under theoretical discussion. The second is availability of data. In this case, we select the following indicators as the basis for assessing the quality of urban life in China.

Housing and Life Service

1) Dwelling space per person;
2) Percentage of families with gas;
3) Number of telephones every 10,000 persons;
4) Average water consumption per person;
5) Average electricity consumption per person;
6) Number of urban public transport vehicles every 10,000 persons.

Economic Life

1) Per capita gross domestic product;
2) Average wage per employee;
3) Average savings per person at the end of year;
4) Ratio of food to living expenditure;
5) Inflation ratio.

Health

1) Number of doctors every 10,000 persons;
2) Number of hospital beds every 10,000 persons.

Environment

1) Population density;
2) Average green space per person;
3) Disposal rate of gas waste;
4) Disposal rate of waste water;
5) Disposal rate of solid waste.

Education

1) Average expenditure on education per person;
2) Number of scientists and engineers every 10,000 persons.

Recreation

1) Number of cinemas and theatres every 10,000 persons;
2) Number of color TV sets every 10,000 persons.

Social Order

1) Number of the injured and killed persons in traffic accidents every 10,000 persons;
2) Number of the injured and killed persons in fire accidents every 10,000 persons.

The indicators above are selected circumspectly, but they can not be considered complete because some indicators are not available (e.g. divorce rate), some indicators are not comparable (e.g. criminial case rate), and some indicators have difficulty in describing the real state of society (e.g. unemployment level in China). Therefore, only as improvement of the level of cognition and enrichment of the statistics, the indicators for assessing the quality of urban life in China can be increasingly perfected.

When the indicators are selected, we identify their orientation against which the indicators are measured. Strictly speaking, the indicators above are divided into 3 types. The first type is positive indicators such as dwelling space per person and number of doctors every 10,000 persons, which have a positive effect on the quality of life by generally accepted norms. The greater this type of indicator is, the better the quality of life. The second type is negative indicators such as percentage of food to living expenditure and number of the killed and injured persons in traffic accidents every 10,000 persons, which have a negative effect on the quality of life by generally accepted norms. The greater this type of indicator become, the worse the quality of life. The third type is threshold indicators which mean that their statistics can be neither too great nor too small, because there is threshod point in the range of their variation. Not exceeding the threshold point in the range of variation, the indicator can be regarded as positive indicator. Otherwise, the indicator can be considered as negative indicator. Therefore, the number of urban public transport vehicles every 10,000 persons is theoretically threshold indicator. However, in current situation of China, it can be regarded as positive indicator by the standard of convenience of daily life. In addition, population density is still a theoretically threshold indicator. However, it can be treated as negative indicator by the standard that high population density in China generally leads to negative effect on the quality of life.

Thus it can be seen that orientation setting is not unambiguous. Most social phenomena usually bring about multiple effects. A single indicator may be considered as a

measure for several orientations. Therefore, orientation setting depends on judgement of standard and requirements of research.

III. SYNTHETIC ASSESSMENT OF THE QUALITY OF URBAN LIFE IN CHINA

On the basis of the discussion of the methodology above, the quality of urban life in China is evaluated by using SPSS. Original data is retrieved from the 1991 Yearbook of Urban Statistics of China published by Statistics Press of China. The selection of 78 cities is based on 4 criteria: 1) the significance of the cities, mainly selecting the central cities of region including municipality directly under the central government, provincial capitals and other important cities; 2) the scale of the cities, including metropolis, medium-sized, and small cities; 3) the geographic distribution of the cities, including both inland and coastal cities; and 4) the availability of data of the cities.

Indicators for assessing the quality of urban life in China are denoted as follows:

x_2—Gross domestic product (GDP) per capita

x_3—Number of hospital beds every 10,000 persons

x_4—Average green space every 10,000 persons

x_5—Number of cinemas and theatres every 10,000 persons

x_6—Average expenditure on education per person

x_7—Dwelling space per person

x_8—Number of telephones every 10,000 persons

x_9—Average wage per employee

x_{10}—Number of doctors every 10,000 persons

x_{11}—Population density

x_{12}—Average water consumption per person

x_{13}—Average electricity consumption per person

x_{14}—Number of urban public transport vehicles every 10,000 persons.

x_{15}—Number of scientists and engineers every 10,000 persons

x_{16}—Number of the injured and killed persons in traffic accidents every 10,000 persons

x_{17}—Average savings per person at the end of year

x_{18}—Ratio of food to living expenditure

x_{19}—Disposal rate of waste water

x_{20}—Disposal rate of waste gas

x_{21}—Disposal rate of solid waste

x_{22}—Number of the injured and killed persons in fire accidents every 10,000 persons

x_{23}—Number of color TV sets every 100 families

x_{24}—Percentage of families with gas

x_{25}—Inflation ratio

In order to keep identical taxis of indicators, the negative indicators such as population density, number of the injured and killed persons in traffic accidents every 10,000 persons, number of the injured and killed persons in fire accidents every 10,000 persons, and inflation ratio are necessarily inversed into positive indicators by taking reciprocal, and negative indicator such as ratio of food to living expenditure is necessarilly changed into positive indicator by taking 1 to subtract itself.

By standardized treatment of original multivariate data and then by solution of correlation matrix, the eigenvalue, contribution percentage, and cumulative contribution percentage of various factors are obtained (Table 1).

Table 1 The Eigenvalue (E), contribution percentage (CP) and cumulative contribution percentage (CCP) of factors

Factor	E	CP	CCP
F_1	6.44159	26.8	26.8
F_2	2.51533	10.5	37.3
F_3	2.14745	8.9	46.3
F_4	1.81083	7.5	53.8
F_5	1.49858	6.2	60.1
F_6	1.36299	5.7	65.7
F_7	1.17680	4.9	70.6
F_8	1.01843	4.2	74.9
F_9	0.88970	3.7	78.6
F_{10}	0.82052	3.4	82.0
F_{11}	0.78115	3.3	85.3

According to Table 1, 11 common factors are selected because the amount of information they explain account for 85.3% of the total amount of information. These common factors which affect the quality of urban life in China show different characteristics.

F_1 accounts for 31.4% of total amount of information and is mainly composed of 9 variables of x_{17}, x_{18}, x_{12}, x_{13}, x_9, x_5, x_{14}, x_{23}, x_{10}, which show that income, saving, transportation, comunication, electric power, recreation and health care make most important influne on the quality of urban life in China. Therefore, F_1 is called life guarantee factor.

F_2 accounts for 12.3% of total amount of information and is mainly composed of 2 variables of x_{16}, x_{12}, which show that traffic and fire accidents make a negative effect on the quality of urban life. The less the accident takes place, the higher the quality of urban life is. Therefore, F_2 is called social order factor.

F_3 accounts for 10.5% of the total amount of information and is mainly composed of

3 variables of x_{12}, x_{25}, x_7, which reflect the effect of water consumption, inflation and housing on daily life. Therefore, F_3 is called family life sensitivity factor.

F_4 accounts for 8.8% of the total amount of information and is mainly composed of 2 variables of x_3, x_4, which show the effect of medical conditions and green environment on the health of urban resident. Therefore, F_4 is called health factor.

F_5 accounts for 7.3% of the total amount of information and is mainly composed of 2 variables of x_{11}, x_6, which show that the given education investment, the less the population density is, the more fully urban residents enjoy education. Therefore, F_5 is called education intensity factor.

F_6 accounts for 6.7% of the total amount of information and is mainly composed of variables of x_{18}, which reflects that the structure of consumption influence the quality of life. If the proportion of food expenditure is very large, people have less opportunities to enjoy commodities and services other than food. Therefore, F_6 is called consuming structure factor.

F_7 accounts for 5.85% of the total amount of information and is mainly composed of variable x_{24}, which shows that at the stage of growing use of gas in China. The higher the proportion of family with gas, the more convenient the family life becomes. Therefore, F_7 is called gas popularization factor.

F_8 accounts for 5% of the total amount of information and is mainly composed of variable x_{19}, disposal rate of waste water which largly determines the quality of environment which will in turn affect the quality of life. Therefore, F_8 is called waste water disposal factor.

F_9 accounts for 4.3% of the total amount of information and is mainly composed of variable x_{21}. Therefore, F_9 is called solid waste disposal factor.

F_{10} accounts for 4% of the total amount of information and is mainly composed of variable x_{15}, which reflects the effect of science and technology on the quality of urban life. Therefore, F_{10} is called science and technology factor.

F_{11} accounts for 3.8% of the total amount of information and is mainly composed of variable x_{20}. F_{11} is called waste gas disposal factor.

The 11 common factors above in order constitute the primary and secondary factors which influence the quality of urban life in China (Table 2).

On the basis of factor loading matrix, Thomson (1951) method is used to estimate factor score $\hat{F}_j$, and percentage of variance of each common factor is taken as weight, that is, $W = \lambda_j / \sum_{j=1}^{11} \lambda_j$. Therefore, the model of synthetic value for assessing the quality of urban life in China is established as follows:

$$Y = 31.479\hat{F}_1 + 12.292\hat{F}_2 + 10.494\hat{F}_3 + 8.849\hat{F}_4 + 7.323\hat{F}_5 + 6.661\hat{F}_6$$

Table 2 Information, variable compositon and explaination of common factors

Common Factor	% to Total	Variable composition	Factor expiaination
F_1	31.4	x_{17}–Average savings per person at the end of year x_8–Number of telephones every 10,000 persons x_2–GDP per capita x_{13}–Average electricity consumption x_9–Average wage per employee x_5–Number of cinemas and theatres every 10,000 persons x_{14}–Number of urban public transport vchicles every 10,000 persons x_{23}–Number of color TV sets every 100 families x_{10}–Number of doctors every 10,000 persons	Life guarantce factor
F_2	12.3	x_{16}–Number of the injured and killed in traffic accidents every 10,000 persons x_{22}–Number of the injured and killed in fire accidents every 10,000 persons	Social order foctor
F_3	10.5	x_{12}–Average water consumption per person x_{25}–Inflation ratio x_7–Dwelling space per person	Family life sensitivity factor
F_4	8.8	x_3–Number of hospital beds every 10,000 persons x_4–Average green space every 10,000 persons	Health factor
F_5	7.3	x_{11}–Population density x_6–Average expenditure on education per person	Education intensity factor
F_6	6.7	x_{18}–Ratio of food to living expenditure	Consuming structure factor
F_7	5.8	x_{24}–percentage of families with gas	Gas popularization factor
F_8	5	x_{19}–Disposal rate of waste water	Waste water disposal factor
F_9	4.3	x_{21}–Disposal rate of solid waste	Solid waste disposal factor
F_{10}	4	x_{15}–Number of scientists and engineers every 10,000 persons	Science and technology factor
F_{11}	3.8	x_{20}–Disposal rate of waste gas	Waste gas disposal factor

$$+ 5.751\hat{F}_7 + 4.977\hat{F}_8 + 4.348\hat{F}_9 + 4.010\hat{F}_{10} + 3.817\hat{F}_{11}$$

Accordingly, the synthetic values of the quality of life in 78 cities of China are estimated and are arranged in descending ranking (Table 3).

According to the Table 3, first of all, the synthetic values of the quality of urban life in China vary greatly from the highest value of 222.29 to the lowest value of −38.09. Of 78 cities, there are only 28 cities, 35.9 percent of the total number, whose synthetic values are above the average level (e.g. synthetic values are positive.). In addition, in the viewpoint of geographic distribution, high values of quality of urban life are frequently distributed in the east coastal areas. For example, of first 15 rankings, there are 11 cities in the eastern part of China such as Shenzhen, Zhuhai, Beijing, Xiaogan, Guangzhou, Dongying, Xiamen, Shanghai, Qinhuangdao, Hefei, Shijiaozhuang and Haikou. This phenomenon fully reflects the high development of society in the eastern part since the opening up policy was carried out in China. The interior, however, lags behind in this respect and has to be taken into consideration.

In order to further study the quality of life in 78 cities of China, Hierachical Cluster Analysis is used to classify the synthetic values of the quality of urban life, which classify the cities with "close nature" into one type. The classified resultes are obtained by the method of sum of squares of deviations. All cities are classified into 4 types except Beijing, Shenzhen, Golmud, and Xiaogan.

The first type includes 33 cities of Nanning, Guilin, Liuzhou, Jingdezhen, Ji'an, Fuzhou, Xiamen, Wenzhou, Nanping, Haikou, Shanghai, Nanjing, Harbin, Shenyang, Hangzhou, Qiqihar, Wuhu, Mudanjiang, Lianyuangang, Chongqing, Xi'an, Handan, Datong, Ma'anshan, Suzhou, Urumqi, Nantong, Wuhan, Nanchang, Luoyang, Yichang, Jinan, and Shijiazhuang. The features of this type are the highest means of factor scores of life guarantee factor, and waste gas disposal factor respectively, and the lowest mean of factor scores of consuming structure factor and science and technology factor respectively among corresponding mean of factor scores of four types. The synthetic value of the quality of life of this type has not a significant correlation with standardized urban population size ($R=-0.2047$), and has a positive significant correlation with standardized gross domestic product per capita ($R=0.7606$).

The second type includes 26 cities of Hefei, Keramay, Loudi, Wanxian, Qujing, Shaoxing, Baiyin, Tianshui, Pingdingshan, Xianning, Weihai, Dongying, Guangzhou, Taiyuan, Yuncheng, Chengdu, Kunming, Hohhot, Xining, Changsha, Zhengzhou, Lanzhou, Zhuzhou, Baoji, Qinhuangdao, and Zhuhai. The features of this type are that the mean of factor scores of family life sensitivity factor, cosuming structure factor, waste water disposal factor and science and technology factor are respectively highest of the corresponding means of factor scores of the 4 types, and the means of factor scores of eduction intensity

factor and gas popularization factor are respectively lowest among the corresponding means of factor scores of the 4 types. The synthetic values of this type has almostly no correlation with standardized urban population size ($R=0.0332$), and has a very significant correlation with standardized gross domestic product per capita ($R=0.9534$).

The third type includes 10 cities of Siping, Guiyang, Zigong, Lengshuijiang, Changchun, Qingdao, Tianjin, Fushun, Jilin, and Dandong. In this type, the means of factor scores of social order factor, health factor, gas popularization factor are respectively highest of corresponding means of factor scores of the 4 types, and the means of factor scores of life guarantee factor, family life sensitivity factor and waste gas disposal factor are respectively lowest. The synthetic value of this type has not a significant correlation with standardied urban population size ($R=0.3928$), and has a significant correlation with standardized gross domestic product per capita ($R=0.9266$).

The fouth type includes 5 cities of Baotou, Tongchuan, Shantou, Dali, and Yinchuan. In this type, the means of factor scores of education intensity factor and solid waste disposal factor are respectively highest of corresponding means of factor scores of the 4 types, and means of fator scores of social order factor, health factor, and waste water disposal factor are respectively lowest. The synthetic value of the type has almost no correlation with standardized urban population size ($R=0.0508$), and has a significant correlation with standardized gross domestic product per capita ($R=0.8833$).

It can be seen from the classified results above that the different features of the quality of urban life of the 4 types reflect the unevenly distributed degree of social resourses with significance to urban residents as a whole. With a good understanding of the features of each type, we can take effective measures in accordance with its own conditions to ameliorate the state of social environment which will in turn promote the improvement of the quality of urban life in China. In addition, it is not at all evident that the quality of life is high in the largest cities. It is, however, evident that the quality of life is high in the economically developed cities. Therefore, at the current situation in China, economic development has to be taken into more consideration in the development of society as a whole in order to improve the quality of life.

IV. SUMMARY

1) The paper evaluates the quality of urban life in China from objective perspective and obtains valid information of social environment which will be helpful for regulation and policy-making at macro level.

2) Diagnostic indicators selected from 7 sides of social environment in the paper fundmentally reflect the objective sides of the quality of urban life in China. Therefore, they are of representativeness.

3) Model for synthetic assessment constructed by multvariat statistical analysis is feas-

Table 3 Ranking of the Quality of Urban Life in China

Ranking	Synthetic value	City	Code
1	222.29	Shenzhen	44
2	124.89	Zhuhai	45
3	106.90	Beijing	1
4	91.74	Xiaogan	39
5	67.12	Keramay	69
6	44.21	Guangzhou	43
7	42.00	Golmud	66
8	26.63	Dongying	34
9	20.84	Xiamen	27
10	20.69	Urumuqi	68
11	16.66	Shanghai	16
12	16.13	Qinhuangdao	76
13	15.11	Hefei	23
14	14.38	Shijiazhuang	75
15	11.10	Haikou	50
16	11.03	Yinchuan	67
17	9.98	Liuzhou	48
18	7.60	Kunming	56
19	7.35	Shaoxing	22
20	6.42	Weihai	73
21	5.35	Zhengzhou	35
22	3.55	Yichang	38
23	3.36	Lanzhou	62
24	3.00	Guilin	49
25	2.93	Suzhou	18
26	2.68	Ma'anshan	25
27	2.39	Nanjing	17
28	0.43	Shantou	46
29	−0.27	Baiyin	63
30	−0.81	Wuhan	37
31	−2.36	Chengdu	51
32	−3.07	Jinan	32
33	−3.14	Fuzhou	26
34	−4.51	Taiyuan	2
35	−6.19	Luoyang	36
36	−6.46	Baoji	61
37	−6.48	Nantong	19
38	−6.55	Dandong	9
39	−6.88	Wenzhou	21

to continued

Ranking	Synthetic value	City	Code
40	−7.57	Changsha	40
41	−7.76	Zhuzhou	41
42	−10.83	Nanning	47
43	−11.73	Loudi	42
44	−13.59	Hohhot	5
45	−13.86	Fushun	8
46	−14.08	Handan	77
47	−14.12	Lianyungang	78
48	−14.37	Qiqihar	14
49	−14.40	Tianjin	74
50	−14.70	Qingdao	33
51	−15.48	Mudanjiang	15
52	−15.38	Dali	57
53	−16.81	Nanping	28
54	−17.64	Pingdingshan	70
55	−19.15	Xining	65
56	−19.26	Baotou	6
57	−20.36	Harbin	13
58	−20.85	Wuhu	24
59	−21.21	Jilin	11
60	−21.91	Hangzhou	20
61	−22.33	Changchun	10
62	−22.56	Chongqing	52
63	−24.31	Nanchang	29
64	−24.46	Shenyang	7
65	−24.79	Wanxian	54
66	−25.18	Tianshui	64
67	−25.25	Jingdezhen	30
68	−26.48	Datong	3
69	−27.80	Xian	59
70	−31.51	Guiyang	55
71	−31.93	Xianning	71
72	−32.57	Yuncheng	4
73	−32.74	Jian	31
74	−33.15	Zigong	53
75	−36.87	Qujin	58
76	−37.30	Siping	12
77	−37.99	Tongchuan	60
78	−38.09	Lengshuijiang	72

ible.

First, 11 common factors selected on the basis of minimizing the loss of information of 24 variables are of good interpretation, and simplify the assessed structure of the quality of urban life. From the 11 common factors, we can see that income, saving, communication, transportation, health care are most important sides which affect the quality of urban life in China.

Second, the synthetic values are reliable. 11 cities of the first 15 ranking are distributed in east coastal areas, which tally with the highly development of east coastal areas resulting from the opening up policy.

4) Cluster analysis of the quality of life of 78 cities exposes the features of 4 types of the cities, which provide a scientific basis for taking countermeasures to improve the quality of urban life.

5) There is no significant correlation between the quality of urban life and urban population size. However, there is a significant correlation between the quality of urban life and the level of economic development.

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