

# Social Quality and Happiness—An Analysis of the Survey Data from Three Chinese Cities

**Ka Lin**

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**Abstract** Over the last two decades, the focus of happiness research has shifted from the measurement of life quality with an emphasis on material well-being to subjective well-being. This article follows this direction of development, but moves further into social well-being. Utilizing the method of social quality analysis, this study developed an analysis of happiness by looking into the influence of social factors on happiness. The study was established on the basis of empirical data collected from a social quality survey done in Hangzhou, Xiamen, and Shenzhen during 2011–2012. The purpose of this study is to expose the relationships between social quality analysis and happiness studies. The study demonstrates a strong correlation of social quality factors with happiness, although each set of these factors has a different impact on happiness in different factor domains.

**Keywords** Happiness · Subjective well-being · Social quality · Social cohesion · Social policy

## Introduction

The contemporary studies of happiness in the developed world demonstrate the change in the focus of research interest from objective well-being to subjective well-being and from the economic rationale of happiness to the psychological rationale of happiness. The growing influence of phenomenology in modern social sciences reinforces this tendency by threading researchers' attention to the cognitive (or even philosophical) interpretation of subjectivity. This development has its early roots in the mid-1960s. For example, Bradburn (1969) insisted that happiness should be the outcome of a balance between the positive and negative emotions of people's feelings; present-day researchers (e.g., Ryff and Keyes 1995) put more stress on subjective happiness and

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K. Lin (✉)

College of Public Administration, Zhejiang University, 866 Yuhangtang Road, Hangzhou 310058, China  
e-mail: ka\_lin\_2004@aliyun.com

URL: <http://www.cpa.zju.edu.cn/eng/show.aspx?id=185&cid=9>

the psychological perspective, considering happiness a feeling of pleasure related to an individual's self-potential and abilities.

Nevertheless, many researchers in developing countries still emphasize an economic rationale for happiness. For instance, Lever's (2004) survey in Mexico revealed that the poorest groups in society have a low level of happiness, and the level is higher in wealthier groups. By international comparison, Diener (2000) also concluded that there was a positive relationship between income and happiness, based on their research on the World Value Surveys. Recent evidence coming from China also showed a strong correlation between rising income and increasing happiness (see Xing and Zhang 2007).

Accordingly, the debate about the nature of happiness continues: Is happiness a function of economic growth or is it an outcome of psychological and subjective feelings, and whether happiness and its driving force are due to developmental/economic reasons or psychological reasons (Diener and Biswas-Diener 2009)? To answer these questions, theories about quality of life (QoL) are most relevant in the study of happiness from the viewpoint of individuals. QoL indicators refer to both economic well-being and subjective well-being, and the justification for a strategy to enhance QoL can be assessed by the extent of people's satisfaction as a reflection of their economic and subjective well-being.

In the study of happiness, however, we should also pay a great deal of attention to the social factors that are beyond the economic and psychological factors. Indeed, a number of social factors, such as fairness and social capital, plus demographic factors and environmental factors, play important roles in determining happiness (see Clark and Senik 2010). Factors of social well-being can involve the issues of social security, public order, social peace, social cohesion, social justice, social participation, and so on, which influence people's judgments about happiness. Studies on these social factors may help us to understand what researchers have observed from most newly industrialized societies, where unhappiness is a prevailing feeling that accompanies economic growth (Chen 2006).

To study happiness from the respect of social well-being, we can adopt the method of social quality (SQ) analysis. This theory provides a four-dimensional framework to analyze social realities: the dimension of socio-economic security refers to factors relating to income, housing, and work; the social cohesion dimension concerns factors of social trust and solidarity; the social inclusion dimension concerns the issue of social grouping; and the social participation dimension involves the factors of social capital, information, organizations, and channels for public participation (Walker and van der Maesen 2004; Lin 2011). This method of society-oriented analysis can be applied to the studies of happiness, and it can complement those happiness studies with an economic rationale or a psychological outlook.

Thus, this study about happiness developed its analysis from these dimensions of social quality indicators. It used survey data from three Chinese cities to illustrate the general condition of happiness among the survey respondents and by comparing the survey data to discuss the features of QoL and SQ. The analysis used the QoL indicators to reflect both objective and subjective well-being by evaluating the situations of material well-being and subjective well-being. From this viewpoint, we did not confirm any logical linkage between social progress in the material world and people's feelings of happiness, but we also perceive happiness in terms of

social well-being and use the SQ approach to reveal the relationships of societal factors as the factors that influence happiness. Through this work, we intended to find some methodological application of QoL and SQ analysis and provide implications for happiness studies.

## The Survey Data and Happiness

With the background established above, we start our discussion about the survey data by defining the research objects. In this study, the survey data were collected from three Chinese cities: Hangzhou, Xiamen, and Shenzhen. These three cities are located on the eastern coast of China, a region characterized by prosperity in terms of highly developed infrastructure and economic growth with high standards of living. In the year 2012, for example, the GDP per capita in Hangzhou was 14,105 USD, 12,415.11 USD in Xiamen, and 15,846 USD in Shenzhen (ROCL Research Office of Confitable Living and Yichang City 2013), much higher than the national level of 6,100 USD. In regard to the population proportions, the registered residents in Xiamen were around 3.54 million, 8.71 million in Hangzhou, and 10.54 million in Shenzhen.

For the data collection, we selected several local communities to survey. We intended to achieve balance by selecting engaged participants from different regions. Thus, we used purposive samplings with certain considerations for the balance of gender, age, economic well-being, and living standards. We used the survey drop-in method to select families from the selected communities. With the help of community organizations, we successfully collected over 1,000 samplings from each city. The questionnaires used in the surveys were adopted from the SQ surveys that were applied to a number of Asian societies by the scholars from the Asian Consortium for Social Quality (see Lin et al. 2012). The surveys were conducted during 2011–2012 by researchers from Zhejiang University and Xiamen University. The basic characteristics of the respondents are presented in Table 1.

In this study, the data analysis methods included one-way analysis of variance, correlation analysis, and linear regression. In the Table 2, we presented the survey data about following question: “In general, how happy are you in your everyday life?” We divided the respondents into three age groups: from 17 to 29 years (youth), 30 to 59 years (the middle-age), and over 60 years (the elderly). Among the survey informants, the youngest respondent was 17 years. We assumed that informants under this age had a limited capacity to understand the questionnaires and thus selected our respondents from this age group and above. In regard to the item “monthly income”, we divided low- and high-income groups in reference to two standards: lower than the average disposable monthly income or higher than the average monthly salary of these cities. The levels of these two standards in 2012 (when the surveys were taken) were RMB 2,838 Yuan and 2,951 Yuan in Hangzhou; RMB 2,797 Yuan and 3,223 Yuan in Xiamen; and RMB 3,042 Yuan and 3,829 Yuan in Shenzhen. With these survey data, a 1–10 scale was applied to calculate the statistical outcomes. We used a mid-point score of 5.5 to measure the working groups. According to the statistical analysis, the score was 5.74 in Hangzhou, 6.38 in Xiamen, and 6.46 in Shenzhen. All the scores were higher than the mid-point score of 5.5, meaning that the surveyed group members were basically satisfied with their lives (see Table 2).

**Table 1** Sample characteristics

Information		Hangzhou	%	Xiamen	%	Shenzhen	%
a) Sex	Male	642	46.8	493	50.5	435	43.4
	Female	731	53.2	483	49.5	568	56.6
b) Age (year)	17–29	264	19.23	208	22.0	370	39.0
	30–39	348	25.35	234	24.8	310	32.7
	40–49	317	23.09	202	21.4	169	17.8
	50–59	228	16.61	141	14.9	49	5.2
	Above 60	216	15.73	159	16.8	50	5.3
c) Marriage	Never married	219	16.49	221	22.5	330	32.8
	Married	1074	79.79	724	73.6	655	65.2
	Divorced	27	2.01	24	2.4	15	1.5
	Widowed	23	1.71	15	1.5	5	0.5
d) Education	Primary school and below	88	6.4	119	12.2	27	2.7
	Middle and high school	501	36.5	562	57.7	413	40.9
	Occupational school	385	28.0	145	14.9	266	26.3
	College and university	334	24.3	146	15	291	29.2
	Hardly answer/no answer	25	1.8	2	0.2	13	1.3
e) The origin of residence	Local urban families	1022	76.6	524	52.7	384	38.0
	Local rural families	101	7.6	93	9.4	24	2.4
	Migrated from urban	124	9.3	124	12.5	240	23.7
	Migrated from rural	63	4.7	219	22	316	31.3
	Hardly answer/no answer	25	1.8	34	3.4	46	4.6
f) Monthly income	1,000 and below	66	5.7	172	20.5	95	10.4
	1,001–2,000	623	53.8	315	37.5	274	30.1
	2,001–3,000	235	20.3	156	18.6	208	22.8
	3,001–4,000	104	9.0	65	7.7	109	12.0
	4,001–6,000	88	7.6	80	9.5	116	12.7
	6,001–8,000	18	1.6	32	3.8	37	4.1
	8,001–10,000	13	1.1	12	1.4	44	4.8
	10,000 and above	11	0.9	8	1.0	28	3.1

To look into the details, we evaluated the happiness scores in different groups distributed by gender, age, education, and origin of residence. Despite the different answers from the three cities, it can be concluded that the impact of gender and age differentiation on happiness has a weak significance in general, but the factors of income, origin of residence, and education have a significant influence, as the F-tests in Table 2 showed a strong effect. The mean scores of the respondents' satisfaction with different aspects of their lives and their correlation to happiness are shown in Table 3. We observed that these factors, which reflect people's satisfaction with different aspects of their material lives, have a close correlation with their feelings about happiness and evidently a positive relationship with happiness. These findings confirm the conventional view that assumes a close relationship between economic success and happiness, and they concur with many other studies done in mainland China, such as a survey that reported poverty as the major cause of unhappiness (China News 2011), and another survey that concluded that the most important factors affecting life quality and happiness were food, housing, schooling, electronic facilities, and tourism (Ou-yang 2011).

Besides the factors of material life, we also found a strong correlation between people's views (and feelings) about society and happiness, which raises the issue of

**Table 2** The mean scores about happiness

		Hangzhou	Xiamen	Shenzhen
a) Sex	Man	5.78	6.15	6.29
	Women	5.85	6.54	6.36
	F-test	F(1,1293)=0.271	F(1,943)=7.123	F(1,983)=0.188
	Scheffé post-hocs	0.603	0.008**	0.664
	Correlation	0.014	0.082*	0.014
b) Age	Youth	6.2	6.47	5.98
	Middle-age	5.86	6.21	6.4
	Elderly	5.8	6.55	7.26
	F-test	F(2,1292)=0.155	F(2,902)=1.934	F(2,932)=8.905
	Scheffé post-hocs	0.856	0.145	0.000**
c) Education	Low	6.17	6.29	6.09
	High	5.76	6.81	6.75
	F-test	F(2,1236)=1.798	F(2,938)=3.333	F(2,977)=6.731
	Scheffé post-hocs	0.166	0.036*	0.001**
	Correlation	0.001	0.079*	0.095**
d) The origin of residence	Local urban	5.65	6.46	6.59
	Local rural	6.11	5.92	7.09
	Migrant urban	6.4	6.75	6.3
	Migrant rural	6.57	6.05	5.94
	F-test	F(3,1237)=6.987	F(3,923)=4.073	F(3,947)=5.621
	Scheffé post-hocs	0.000**	0.007**	0.001**
e) monthly income	Low	5.26	6.2	6.14
	High	5.82	6.77	6.94
	F-test	F(1,901)=11.302	F(1,825)=9.078	F(1,899)=19.609
	Scheffé post-hocs	0.001**	0.003**	0.000**
	Correlation	0.226**	0.078*	0.174**
	Mean score	( <i>t</i> test)	5.74 (2.31)	6.38 (2.24)

Note: \*\*means correlation coefficient on 0.01 is significant, \*means correlation coefficient on the 0.05 is significant

subjective well-being. The indicators of subjective well-being concern not only some psychological phenomena, such as anxiety, unhappiness, and depression (Li and Zhao 2000), but they also relate to individuals' feelings about their lives. This study examined the factors of subjective well-being by linking people's outlooks on various aspects of their daily lives with happiness. In Table 4, we calculate the data on the first two items of this table with a 5-level scale (from totally agree to totally disagree), and account the mean scores  $X$  in the format of  $6-X$  in order to get the scores in the same orientation with the scores of the other five items in the same table. A strong correlation between people's optimistic views about the future and happiness is evident in the data. However, we still need to look for the factors that generate people's feelings and their

**Table 3** Life satisfaction and its correlation with happiness

	Education	Employment	Living environments	Family relations	Health condition	Social activities	Family income
1. Hangzhou							
a) The mean score of satisfaction	5.66	5.56	5.76	6.03	6.16	5.98	5.37
b) The correlation to happiness	0.606**	0.651**	0.692**	0.648**	0.556**	0.693**	0.681**
2. Xiamen							
a) The mean score of satisfaction	5.13	5.37	5.96	7.66	6.99	6.54	5.54
b) The correlation to happiness	0.446**	0.437**	0.508**	0.286*	0.300**	0.508**	0.577**
3. Shenzhen							
a) The mean score of satisfaction	5.35	5.32	5.19	7.52	7.06	6.37	5.16
b) The correlation to happiness	0.407**	0.526**	0.454**	0.289**	0.299**	0.401**	0.546**
4. Three cities							
a) The mean score of satisfaction	5.36	5.12	5.59	6.87	6.61	6.18	5.31
b) The correlation to happiness	0.301**	0.345**	0.343**	0.250**	0.236**	0.334**	0.337**

Note: \*\*means correlation coefficient on 0.01 is significant, \*means correlation coefficient on the 0.05 is significant

views from material aspects of life and from broader social factors. Feelings about happiness are a very individual matter, but they are heavily influenced by social causes.

In the analysis of social causes, social quality theory can make a great contribution. Thus, we go further in the data analysis of social well-being by adopting an SQ approach and testing the four dimensions of social quality analysis. For each dimension, we selected some indicators as representatives to define indices and set the index score accordingly, and then we evaluated the scores of the indicators in the appropriate dimension. With this approach, we evaluated the strength of the influence of social cohesion factors on happiness and the impact of social empowerment and social inclusion factors on people's actions.

### The Correlation of Social Factors to Happiness Analyzed with the SQ Approach

To study the social quality conditions of a society, we began with the conditional factors of the four SQ domains. In the first domain of socio-economic security, three sets of indicators were adopted as the reflectors of the factual state of affairs: the burden of family expenditures on education, housing, and health care (from very heavy, heavy, fine, and no burden, using a 0–1 scale); the available resources of social support for maintaining the family income once the breadwinners of the families lose their jobs (from seven potential resources of pensions, social assistance, unemployment benefits, the support from family members and from other

**Table 4** Mean scores about general views of society

Are you agreed the following statements? (1 =totally agree, 5 =totally disagree)	Hangzhou		Xiamen		Shenzhen	
	mean cores	correlation with happiness	mean cores	correlation with happiness	mean cores	correlation with happiness
a) I am optimistic for the future	2.15	-0.307**	2.02	-0.184**	1.96	-0.263**
b) The reality of my living condition is near what I expected.	2.71	-0.299**	2.78	-0.183**	2.84	-0.293**
c) I have to do something against my wish in order to survive.	3.38	0.143**	3.81	0.165**	3.82	0.105**
d) I have been discharged by the whole society.	3.51	0.174**	3.89	0.282**	3.81	0.238**
e) Life is too complicated, I feel lost.	3.32	0.176**	3.58	0.310**	3.46	0.235**
f) My work is disvalued by others.	3.41	0.151**	3.60	0.230**	3.58	0.195**
g) I am looked down by people.	3.55	0.166**	3.93	0.300**	4.03	0.293**

Note: \*\*means correlation coefficient on 0.01 is significant, \*means correlation coefficient on the 0.05 is significant

**Table 5** The score and its correlation of socio-economic factors to happiness

socio-economic security	Hangzhou		Xiamen		Shenzhen	
	Mean scores	correlation with happiness	Mean scores	correlation with happiness	Mean scores	correlation with happiness
a) Family Expanse	0.4069	0.194**	0.4342	0.181**	0.3569	0.171**
b) Family income once lost job	0.1087	0.020	0.1509	0.050	0.1648	0.049
c) Family Income status	0.3092	0.155**	0.3322	0.344**	0.2738	0.357**
The socio-economic security index	0.2786	0.193**	0.3033	0.337**	0.2621	0.356**

Note: \*\*means correlation coefficient on 0.01 is significant, \* means correlation coefficient on the 0.05 is significant

relatives, temporary work, and personal savings with a scale of 1–0 measured as “yes” or “no”); and the self-evaluation of family income from very low, lower than the average level, on the average, to higher than the average level and very high on a 0-1 scale, in comparison with the average family income level of each society (see Table 5). These three indicators reflect the general conditions of socio-economic security: the first one assesses a family’s economic condition by using their real spending (the direct indicator in the absolute term of family finances) and the third one is for comparing the income status of one family with other families in their cities.

Meanwhile, it should be noted that the conditions of socio-economic security are not only about how well-off a family is, but also about how secure a family feels about their family income. Thus, the second question about the means of living when jobs are lost is still an important indicator that reflects the socio-economic conditions. With the data from these three questions, we can compute the socio-economic security index in the following way:  $F1 = [Family\ Expense/3 + (Family\ income\ once\ a\ job\ is\ lost)/7 + Family\ Income\ status]/3$ . The outcome of this calculation expresses the general correlation between the socio-economic factors and happiness, and their relationship is significant. However, taking a closer look, we also noticed that among these three indicators, we observed that the answer to the second question on social security seems not very relevant to happiness.

In order to test this issue, we needed to do a detailed exploration. We selected a number of social security and life security programs, varying from state-funded social insurance programs to private commercial life insurance programs, in order to test the effect of using these programs (and therefore the level of how secure people feel) on people’s feelings of happiness. We probed the rate of program participation, using “1” to represent the participants and “0” for non-participants. The results, as displayed in Table 6, are clear: some programs have positive figures of correlation, but others have negative figures. Thus, once we concluded that participation in social security programs is not indispensable to nurturing an individual’s level of happiness, we can say that the factors of socio-economic security can be important for ensuring people’s security and these conditions may indicate some prerequisites of happiness. However, social security issues and happiness are not necessary to be closely associated, since social security is too low of a standard in terms of happiness.



**Table 6** Correlation of social security programs to happiness

Variables Happiness	Old-age pension	Health care	Unemployment	Work injury	Maternal leave	Health care for serious illness	Commercial insurance
a) Hangzhou	-0.023	0.195**	0.127**	0.109**	0.013	0.058*	-0.030
b) Xiamen	0.135**	0.08**	0.027	0.057	0.023	0.091**	0.108**
c) Shenzhen	0.118**	0.135**	0.039	0.051	0.044	0.054	0.090**

Note: \*\*means correlation coefficient on 0.01 is significant, \*means correlation coefficient on the 0.05 is significant

The dimension of social cohesion, to a large degree, is related to the conditional factors of SQ assessment in a normative aspect (Lin 2011), and thus, questions about social trust become the key indicators that reflect people's general views about society and their individual lives in terms of solidarity, which is the normative basis of social cohesion. Three questions were used in this test in this regard. One asked about social trust in the general sense in a direct way, as this indicator is the most commonly used indicator for social cohesion (Ward and Meyer 2009; Bureekul and Thananithichot 2012). We used yes or no options to measure the answers about general trust and adopted a 0–1 scale (1=very much agree) that reflected people's general consensus about others and society. The second question was also about social trust but was asked in an indirect way to determine people's views on distrust. We inquired about the participants' views on the question that would people often utilize you once it is possible, and the result is illustrated with a 0–1 scale (1=totally disagree) in Table 7.

In parallel, we also asked a third question about trust in terms of people in different social groups, because of the influence of cultural diversity on measuring social trust. For instance, in many East Asian societies, people may have very strong trust in the people they are in contact with (or who are inside their network) but not in strangers (Lin 1999), which very likely causes the figures for general trust to be relatively lower. However, when using this figure to conclude that East Asians have low amounts of trust, people may complain that this conclusion is a misinterpretation. In order to avoid this risk, we decided to bring the trust issue into sharper focus by analyzing the situation of social trust in different social groups. By calculating all these answers, we were able to create an index of social cohesion that included more complicated factors.

Accordingly, we got two conclusions. First, in regard to the general conditions of trust as related to happiness, we set-up the social cohesion index in the following way:  $F2 = [\text{general trust} + \text{utilizing people} + \text{trust in (relatives} + \text{neighbors} + \text{friends} + \text{strangers)}] / 4 / 3$ . The data analysis showed that, in general (according to the social cohesion index), we can conclude that the factor of social cohesion has a great impact on happiness. Second, if we look into the survey data from different groups, the situation is very complicated. The correlations of happiness with trust in relatives and strangers are vague, and in some cases, negative. Similarly, trust in neighbors and friends seems more significant, but has a mostly negative relationship with happiness. If this observation was to be evaluated (which would be difficult since its implications are complicated), it could be interpreted in terms of the influence of the cultural norm of familist groupism in China, which has a large impact on social trust (especially in relation to strangers).

**Table 7** Mean scores about general views on society and trust

	Hangzhou		Xiamen		Shenzhen	
	scores	correlation with happiness	scores	correlation with happiness	scores	correlation with happiness
1. Confirming that most people are trustful (in a 0–1 scale)	0.57	0.263**	0.62	-0.037	0.42	-0.123**
2. Disagree with the statement that if had chance, most people will utilize you (in a 0–1 scale).	0.35	0.038	0.70	0.062	0.36	0.127**
3. Trust on (in a 0–1 scale)						
a) Relatives	0.9867	0.006	0.9709	-0.044	0.9785	-0.063*
b) Neighbors	0.8763	0.125**	0.7281	-0.079*	0.6789	-0.137**
c) Friends	0.8945	0.020	0.7804	-0.091**	0.7945	-0.114**
d) Strangers	0.1613	-0.06*	0.3255	0.005	0.2867	-0.069*
4. Social cohesion index	0.6294	0.183**	0.6835	0.145**	0.6454	0.324**

Note: \*\*means correlation coefficient on 0.01 is significant, \* means correlation coefficient on the 0.05 is significant

With respect to social inclusion, the indicators in this domain are used for reflecting on the condition of social integration by social groups, social systems, and social stratification. The issue concerns the institutional and structural features of society (Lin et al. 2012). We tested the inclusion issue by grouping the answers about access to various social systems, including the systems of old-age protection, employment services, community assistance, and existing support from non-governmental organizations (NGOs). The data were analyzed in terms of the potential influence of the respondents' access to numerous social institutions and systems. The statistics illustrated that access to these systems does not have a strong influence on the state of happiness. However, the situation is still controversial and we found that in some cases, the results varied.

When the author analyzed the social inclusion index related to the abovementioned data, there was a strong correlation of social access with the happiness indicator. The index is articulated such that  $F3 = (\text{attending the pension program} + \text{employment service} + \text{community help} + \text{help from NGOs})/4$ . It should be noted that in this set of indicators, there was a great cross-regional diversity. In Shenzhen, the correlation of social inclusion factors with happiness was more evident than in Hangzhou and Xiamen, but even in Shenzhen, there were still only two indicators that had a significant effect and the other two had no significant correlation with happiness (Table 8).

As to social empowerment/social participation, the author applied three indicators as reflectors: voting in the last general election (election for representatives of the People's Congress), participation in NGOs, and freedom of expression. The first indicator had two choices, either yes or no, and the second indicator probed the frequency of attending any social groups/organizations or NGOs with three choices: never, occasionally, or often. These organizations included nine types of civil society groups, such as sport clubs, school-related groups, religious organizations, kinship-based organizations, and so on. The third indicator talked about the frequency of online

**Table 8** Mean scores about social inclusion

Social Inclusion (1=yes, 0=no)	Hangzhou		Xiamen		Shenzhen	
	Scores	Correlation with happiness	Scores	Correlation with happiness	Scores	Correlation with happiness
1. Access to old age pension	0.900	0.023	0.638	0.126**	0.722	0.118**
2. Access to employment service	0.234	0.221**	0.120	0.016	0.162	0.062
3. Access to community help	0.260	0.008	0.118	0.058	0.157	0.111**
4. Get assistance from NGOs	0.061	0.008	0.061	0.030	0.075	0.047
5. Social inclusion index	0.3656	0.138**	0.5287	0.075**	0.5340	0.139**

Note: \*\*means correlation coefficient on 0.01 is significant, \* means correlation coefficient on the 0.05 is significant

endeavours to express participants' outlooks and opinions on websites, with the responses of: once gave opinion, might give opinion, or never have. According to the data, we calculated the social participation index as:  $F4 = [\text{voting in the last general election} + (\text{participation in social groups})/9 + \text{freedom of expression}]/3$ . The data in Table 9 confirms a very robust correlation of online activities with happiness. This pointed towards the strength of social participation and empowerment as a fundamental issue in the analysis of social quality.

To summarize the above analysis, we composed Table 10 in relation to the four sets of conditional factors and the happiness indicator. The results of this calculation indicate a strong relationship between social cohesion and happiness in Hangzhou, Xiamen, and Shenzhen (the mean scores are 0.63, 0.68, and 0.65 in Table 10, respectively); these scores are the highest of the four dimension indicators. On the socio-economic security, we found that there was a definite correlation to happiness; nevertheless, it had a low mean score. The social inclusion indicators and social empowerment indicators are significant, but their mean scores are diverse. Thus, we have a basic view of the relation of SQ factors to happiness in general.

## Regression Analysis

In the aforementioned segments, we have already revealed and demonstrated the correlation of various factors with happiness. However, we still need to use comparative analysis to identify the most significant influencing factors on happiness among the various factors identified during the survey. This analysis should be able to sort out which factors have strong or weak impacts on happiness. In this purpose, the author included factors that have a substantial correlation with happiness and excluded those factors that did not exhibit a relationship with happiness at a noteworthy level. The

**Table 9** Mean scores about social empowerment

	Hangzhou		Xiamen		Shenzhen	
	Scores	Correlation with happiness	scores	Correlation with happiness	Scores	Correlation with happiness
1. Voting in the last general election	0.5820	0.032	0.3329	0.114**	0.5532	0.098**
2. Participation in social groups	0.2510	0.020	0.1881	0.034	0.2022	0.142**
3. Freedom of expression	0.5171	0.201**	–	–	–	–
4. Social empowerment index	0.6216	0.103**	0.2568	0.118**	0.3721	0.114**

Note: \*\*means correlation coefficient on 0.01 is significant, \* means correlation coefficient on the 0.05 is significant

**Table 10** Mean scores and the correlation test

Happiness scores	Socio-economic security (F1)	Social cohesion (F2)	Social inclusion (F3)	Social empowerment (F4)
1. Hangzhou				
a) Means	0.28	0.63	0.3656	0.62
b) Correlation	0.193**	0.183**	0.138**	0.103**
2. Xiamen				
a) Means	0.30	0.68	0.5287	0.26
b) Correlation	0.337**	0.145**	0.075**	0.118**
3. Shenzhen				
a) Means	0.26	0.65	0.5340	0.3721
b) Correlation	0.356**	0.324**	0.139**	0.114**

Note: \*\*means correlation coefficient on 0.01 is significant, \*means correlation coefficient on the 0.05 is significant

author also realized that these factors may demonstrate a strong correlation with the indicator of happiness in case-to-case circumstances, but it is hard to confirm such close relationships when we put these factors together and study them. Accordingly, it is essential to develop a synthesized analysis for these factors through the method of regression analysis, in order to discern the most important factors that influence happiness.

Hence, the author classified all the factors revealed above into three categories, including the objective indicators, subjective indicators, and social indicators. The objective indicators refer to gender, age, original place of residence, income, and education status. Since Tables 1 and 2 show that gender and age have a weak correlation with happiness, the author excludes these factors but adopt education, residence, and income into the examination, as they have a strong correlation with happiness (see Tables 1 and 2). For the subjective indicators, Table 3 gives information about the correlation of people's life satisfaction with the indication of happiness. The results reveal the fact that people's satisfaction in various aspects of their lives has a close correlation with the indication of happiness. Thus, the author took all these scrutinized indications into consideration in order to frame subjective well-being.

As both objective and subjective indicators are concerned with an individual's life, we also needed to look at the roles of social factors from the social quality perspective. By examining the operational functions of social quality factors, we can further evaluate the impacts of these factors on people's lives through the angle of happiness studies. In the previous sections, we explored social quality factors in relation to happiness, and these investigations uncovered some significant relationships (see Tables 5, 6, 7, 8, and 9, and F1, F2, F3, and F4 in Table 10). However, we needed to know more details about their utility in terms of influencing happiness, and in particular, in the comparative contexts of the objective and subjective factors of individuals' lives. Accordingly, we established an equation as follows.

$$\text{Happiness} = \alpha_0 + \alpha_1 \text{residence} + \alpha_2 \text{income} + \alpha_3 \text{edu}_1 + \alpha_4 \text{edu}_2 + \alpha_5 \text{sub\_wel1} \\ + \alpha_6 \text{sub\_wel2} + \alpha_7 F1 + \alpha_8 F2 + \alpha_9 F3 + \alpha_{10} F4$$

In this equation, an indication of happiness is an outcome of the functions of three sets of factors: the objective factors of people's personal living status, including place of original residence (i.e., the local or migrated population), education, and income status; subjective well-being factors, including life satisfaction in various aspects; and social quality factors, including F1, F2, F3, and F4 in the previous calculation. Among these factors, "1" and "0" represent the members of the "local" and the "migrated" residents in the indicator "residence", and the respondents to the indicator "income" were divided into two groups according to their levels of income in order to apply regression analysis. The indicator "edu\_1" (1, 0) represents the group with a medium level of education, and "edu\_2" (0, 1) represents the high level group. The low level education group was used as the referred group.

Meanwhile, we saw that happiness has an indispensable connection with life satisfaction, and therefore, we tested the influence of life satisfaction on happiness in various aspects of people's daily lives, including education, employment, living environment, family relationships, health conditions, social activities, and family income (see Table 3). We calculated the data to reflect their effects of people's satisfaction on subjective well-being in the following way: "sub\_wel1"=(education+employment+living environment+family relationships+health conditions+social activities+family income)/7. The data presented in the items of Table 4 is also accounted as follows: "sub\_wel2"=(future+expectation+follow wishes+discharge+feeling loss+work disvalued+looked down)/7.

With regard to the social quality indicators, we adopted F1, F2, F3, and F4 to reveal four sets of social quality indicators (socio-economic factors, social cohesion, social inclusion, and social empowerment; see Table 10). The correlation of these factors with happiness has been displayed by a number of the tables in this study (Tables 5–10). Hence, we needed to test how strong the impact of these factors was on happiness when compared with the influence of the objective and subjective indicators. By using a linear regression method (with Stata Software, version 11.0), we tested the significance of all objective, subjective, and social factors on happiness as reported in the survey data from Hangzhou, Xiamen, and Shenzhen. The outcomes of these calculations are summarized below.

1. Happiness (Hangzhou)=-0.96-0.381\*residence+0.088\*income -0.952\*edu\_1-0.437\*edu\_2+0.822\*sub\_wel1+0.408\*sub\_wel2+2.213\*F1+1.316\*F2+0.645\*F3-2.282\*F4
2. Happiness (Xiamen)=-1.376+0.14\*residence-0.005\*income-0.458\*edu\_1-0.247\*edu\_2+0.759\*sub\_wel1+0.613\*sub\_wel2+2.269\*F1-0.101\*F2+0.675\*F3+0.023\*F4
3. Happiness (Shenzhen)=2.355+0.255\*residence+0.047\*income-0.241\*edu\_1-0.292\*edu\_2+0.682\*sub\_wel1+0.017\*sub\_wel2-0.128\*F1-0.171\*F2-0.540\*F3-0.334\*F4

**Table 11** The synthesized analysis on the effect of various factors on happiness

	Objective factors				Subjective factors			Social quality factors				
	Residence	Income	Edu_1	Edu_2	Sub_well	Sub_wel2	Factor 1	Factor 2	Factor 3	Factor 4	Cons	
1. Hangzhou	Coefficient	-0.381	0.088	-0.952	-0.437	0.822	0.408	2.213	1.316	0.645	-2.282	-0.960
	Std_error	0.167	0.153	0.302	0.288	0.040	0.137	0.804	0.590	0.571	0.626	1.232
	P>t	0.023*	0.565	0.002**	0.130	0.000**	0.003**	0.006**	0.027*	0.260	0.000**	0.437
2. Xiamen	Coefficient	0.140	-0.005	-0.458	-0.247	0.759	0.613	2.269	-0.101	0.675	0.023	-1.376
	Std_error	0.221	0.158	0.241	0.355	0.077	0.166	0.926	0.405	0.819	0.435	1.368
	P>t	0.527	0.977	0.059	0.487	0.000**	0.000**	0.015*	0.803	0.411	0.958	0.316
3. Shenzhen	Coefficient	0.255	0.047	-0.241	-0.292	0.682	0.017	-0.128	-0.171	-0.540	-0.334	2.355
	Std_error	0.255	0.231	0.274	0.389	0.076	0.192	1.105	0.469	0.932	0.304	1.866
	P>t	0.319	0.840	0.380	0.455	0.000**	0.928	0.908	0.716	0.563	0.273	0.208

Note: \*\*means correlation coefficient on 0.01 is significant, \* means correlation coefficient on the 0.05 is significant

Accordingly, we found that among above three sets of factors, the most influential factors on happiness were the subjective indicators. As illustrated by Table 11, the coefficient figures of the subjective indicators are the highest and their effects are significant. It is understandable that life satisfaction is the most powerful determinant of happiness, as happiness in nature is a subjective feeling. In contrast, the objective indicators, such as the origin of residence, income, and education, do not have high coefficients, and their significance is also vague. The social quality factors, however, are in between. Their influence over happiness is, generally speaking, stronger than that of the objective indicators but lower than the subjective indicators. Of course, these impacts vary from one city to another, which reflects the different conditions of social quality and their influence over happiness.

## Discussion and Conclusion

We can develop a comprehensive understanding into the insight of the relation between social quality and happiness when we analyze the multifarious and diverse effects of social quality indicators on happiness. This comparative study of three cities in China makes it clear that the coefficients of social quality indicators on happiness are generally positive and significant in Hangzhou, positive but insignificant in Xiamen, and a bit negative but not significant in Shenzhen. The analysis of the data established that the social quality conditions were good in Hangzhou in general and less sound in Xiamen, but in Shenzhen, they were worse in relation to happiness, even having a negative relation to happiness. Essentially, we observed diverse states by comparing four sets of social quality factors. The factors in the domains of socio-economic security, social cohesion, and social empowerment (F1, F2, and F4) all had some significant influence on happiness, but the factors of social inclusion (F3) appeared to be less influential. This conclusion is in agreement with other social quality research studies in various circumstances (Lin et al. 2012; Abbott et al. 2011).

In order to have a clear understanding of the divergent impacts of social quality factors on happiness, we did an in-depth examination of the features of three Chinese cities. The selected cities are located in the east coast region and the most developed region of China. The per capita GDPs are relatively high and the levels of consumption are high, indicating a high standard of living. However, the local culture and people's morale differed from one to another, and their social circumstances also differed. Using their population components as an example, Hangzhou had around 25 % migrant workers, Xiamen had 48 %, and Shenzhen had 73 %. As reflected in the survey, migrants made up only 15 % of the total respondents in Hangzhou, 34.5 % in Xiamen, but over 55 % of the total in Shenzhen, which is a typical city of migrants.

Nevertheless, this is not an issue of place of residence, but it is dependent on the consequences of these demographic features in society. These features have an obvious influence on the morale of local societies, typically on the sense of solidarity and social cohesion, along with other factors. In Hangzhou, there is a long traditional ideal in favor of a cultural life, where people appreciate secular life and the pursuit of cultural enrichment and enjoyment. Although the socio-economic conditions are quite good here and a sense of commodification is relatively weak in the minds of local people. With this background, the municipal government also pursues the goal of life quality,



which supports the notion of happiness. Consequently, Hangzhou's society is more coherent and integrated as compared to many other cities in China, where the level of socio-economic security is relatively high. This particular situation contributes to an elevated level of happiness by improving the social quality factors.

In an unlikely social setting, Shenzhen is a city of migrants. Of the total population of Shenzhen in 2012, only 2.87 million are of local origin and 7.67 million are migrants. Most of the migrants went to Shenzhen to earn a living, and they had strong pressures from work and struggle for success in their careers and lives, which is different from the people in Hangzhou. This feature also disintegrates the sense of attachment among residents. Many migrants are likely to be self-excluded from social activities, and this formulate a weak communitarian context of society. Inevitably, this context influences people's feelings about happiness, as revealed by Table 7, the correlation between trust and happiness was negative in Shenzhen, which was not the case in Hangzhou. However, the situation in Xiamen seems a bit moderated; Xiamen is less rich than Shenzhen and Hangzhou, less migrant than Shenzhen, but more migrant than Hangzhou. Understandably, the SQ score of this evaluation for Xiamen is between Hangzhou and Shenzhen.

Therefore, a social quality analysis can, to some degree, reveal the essential elements of social phenomena. Through happiness studies, we can come close to revealing the relations between social factors and people's feelings and can clarify, in part, the features of general social conditions that can be improved. These types of studies can illustrate the strengths of particular societies in certain SQ dimensions and answer the question of why certain societies are weak in another dimension. Such studies provide direction for the development of social policy and life quality studies, and accordingly, we can obtain some general conclusion for our studies of happiness and revealed the influence of these social factors on individual life.

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## References

- Abbott, P., Wallace, C., & Sapsford, R. (2011). Surviving the transformation: Social quality in Central Asia and the Caucasus. *Journal of Happiness Studies*, 12, 199–223.
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago: Aldine.
- Bureekul, T. & Thananithichot, S. (2012). Trust and Social Cohesion, the Key to Reconcile Thailand's Future, 2(2): 81–97.
- Chen, F. (2006). "Happiness index" to evaluate development, [http://www.gov.cn/english/2006-03/01/content\\_214184.htm](http://www.gov.cn/english/2006-03/01/content_214184.htm).
- China News (2011). Reflecting public opinion on life satisfaction, available from: <http://news.china.com/domestic/945/20110921/16778384.html>.
- Clark, A. E., & Senik, C. (2010). Will GDP Growth Increase Happiness in Developing Countries? IZA Discussion Paper No. 5595. Available at SSRN: <http://ssrn.com/abstract=1796590>.
- Diener, Ed. (2000). Subjective Well-being: The Science of Happiness and a Proposal for a National Index, *American Psychologist*, 55(1), Jan 2000.
- Diener, E., & Biswas-Diener, R. (2009). Will money increase subjective well-being?: a literature review and guide to needed research. *Social Indicators Research*, 37, 119–154.
- Lever, J. P. (2004). Poverty and subjective well-being in Mexico. *Social Indicators Research*, 68(1), 1–20.

- Li, J., & Zhao, Y. (2000). Validation of Index of Well-being in a Sample of Chinese College Students. *Chinese Journal of Clinical Psychology*, No.4/2000.
- Lin, K. (1999). *Confucian welfare cluster: A cultural interpretation of social welfare*. Tampere: University of Tampere.
- Lin, K. (2011). The prototype of social quality theory and its applicability to Asian society, social quality and welfare system sustainability. *International Journal of Social Quality*, 1(1), 57–70.
- Lin, K., Xu, Y., Huang, T. H., & Zhang, J. H. (2012). Social exclusion and its causes in east Asian societies: evidences from SQSQ survey data. *Social Indicators Research*. doi:10.1007/s11205-012-0074-0.
- Ou-yang, H. (2011). An over View on the Focus of Consumption in China, *XiaoKang Magazine*, February, 2011.
- ROCL (Research Office of Confttable Living, Yichang City). (2013). The Values of GDP and GDP per capital of Chinese Cities 2012, Available from: <http://www.elivecity.cn/html/jingjifz/731.html>, accessed in 2013. 5.10.
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719–727.
- Walker, A. C., & van der Maesen, L. J. G. (2004). Social quality and quality of life. In W. Glatzer, S. von Below, & M. Stoffregen (Eds.), *Challenges for quality of life in the contemporary world* (pp. 13–31). The Hague, London, Boston: Kluwer Academic Publishers.
- Ward, P., & Meyer, S. (2009). Trust, social quality and wellbeing: a sociological exegesis. *Development and Society*, 38(2), 339–363.
- Xing, Z. & Zhang, Y. (2007). Research on the Relation Between Social Support and Subjective Well-being. *Social Science Research*, No.6/2007.