

# *Analysis of the Influencing Factors of Residents' Well-Being from the Perspective of Public Service: Based on Farmer Household Data in Guangdong Province*

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**Abstract:** The pursuit of happiness is the ultimate goal of economic development and people's lives. Chinese government points out that "promoting people's well-being is the fundamental purpose of development". As a large country with a population of 550 million (2021) rural resident farmers, enhancing farmers' happiness has become the destination of national policies. This paper finds that farmers' happiness is generally in the middle to upper level by analyzing survey data of farmers in Guangdong Province. The percentage of farmers with high level of happiness is low, and among many factors affecting farmers' happiness, income becomes a key factor. The influence of farmers' consumption structure on happiness is heterogeneous, with the highest positive influence coefficient of cultural, leisure and entertainment consumption on farmers' happiness. Farmers' physical and mental health has a positive influence on happiness. Low quality of marital status is not conducive to farmers' happiness. Farmers' participation in online social activities is conducive to the expansion of happiness content and diversification of experience. Farmers' participation in social security programs contributes to happiness. However, there is no inevitable relationship between farmers' educational background and happiness. Based on the above findings, the group gives several policy recommendations.

## **1. Introduction**

Chinese government points out that "promoting people's well-being is the fundamental purpose of development". As a populous country with 550 million rural farmers, how to improve the sense of access, happiness and security of hundreds of millions of Chinese farmers has become the top priority of the government's work. Take the "three rural" issues as the top priority of the work of the government and society to promote the revitalization of the countryside, to promote high quality and efficient agriculture and livable countryside, rich and affluent farmers. The ultimate goal of implementing the "three rural areas" policy is to improve the happiness of farmers. "Making people happier" is the solemn promise made by the government and the State to all people. Undoubtedly, the rapid development of the rural economy in China since the implementation of the poverty eradication policy has brought great improvements to farmers' lives, but it has also led to some problems. For

example, rural environmental problems, insufficient quality education resources, poverty caused by major diseases are still common, farmers' employment and entrepreneurship environment is limited, income is slow to improve, and the income gap within the rural areas is widening, which restricts the quality of life and happiness of farmers. Therefore, what are the factors that affect farmers' happiness in the context of poverty "removal"? And to what extent do these factors affect farmers' happiness? How can local governments optimize their existing policies to address the pain points of the problem is a question that needs to be studied.

In recent years, farmers' happiness has received attention from all walks of life, theoretical discussions and empirical analysis of farmers' happiness and happiness index have emerged in large quantities, and the research on farmers' happiness has also achieved certain results. For example, the personal factors, family factors, and macroeconomic factors significantly affected farmers' subjective well-being. Among them, farmers who are female, have spouses, have high education level, are physically healthy, have high income, have more properties, have improved social status, and have high satisfaction with the environment are happier; the number of properties in the family are particularly important for rural women to obtain and improve their happiness, while rural men care more about the improvement of absolute income, social status, and stable marital life <sup>[1]</sup>. The farmers who own urban commercial housing have higher happiness than those who do not, and urban commercial housing purchase behavior can make farmers feel "very unhappy," "unhappy," and the probability of "very unhappy", "unhappy" and "average" decreases by 0.3%, 1.4% and 2.6%, respectively, and the probability of "happy" and "very happy" increases by 2.1% and 2.3% <sup>[2]</sup>. The higher the degree of farmers' income inequality measured by the individual relative deprivation index, the lower the subjective happiness of farmers, and the alleviation of income inequality can significantly improve farmers' happiness; social capital has a moderating role in the impact of income inequality on farmers' happiness, and cognitive social capital measured by social equity and social trust can effectively moderate the negative impact of income inequality on farmers' happiness. Cognitive social capital, measured by social equity and social trust, can effectively regulate the negative impact of income inequality on farmers' happiness, while structural social capital can fully regulate the negative impact of income inequality on farmers' happiness, and alleviate the feeling of happiness deprivation by enhancing farmers' social psychological acquisition <sup>[3]</sup>.

Certain research advances have also been generated in the areas of financial resource support, village governance, rural reform and farmers' entrepreneurship. Such as the development of both formal and informal finance significantly increases the happiness of rural residents in China, and the enhancement effect of informal finance on farmers' happiness is higher than that of formal finance. Further study found that the incremental effect of formal finance on farmers' happiness increases with the increase of residents' income, while the incremental effect of informal finance on farmers' happiness decreases with the increase of residents' social capital <sup>[4]</sup>. The farmland titling not only directly and significantly increased farmers' subjective well-being and life satisfaction, but also farmland titling increased farmers' subjective well-being by increasing farmers' income, and there is no intermediate mechanism for farmland titling to increase farmers' well-being by increasing mortgage opportunities. The government should enhance farmers' trust in farm support policies through publicity in the future, increase farmers' autonomy in their occupational choices, and improve farmers' well-being <sup>[5]</sup>. The implementation effect of the new agricultural cooperative is not ideal. After the article was further grouped by gender, age, income, education, and region, the study found that the local effect of the new agricultural cooperative was not ideal <sup>[6]</sup>. The horizontal, vertical and expected relative deprivation are all important factors limiting farmers' happiness, and the negative effect of relative deprivation on farmers' happiness is more significant than the positive effect of relative acquisition, but the negative relationship between vertical relative deprivation and farmers' life satisfaction is relatively weak <sup>[7]</sup>. And the public goods consumption path has a stronger impact

on farmers' well-being than the status goods consumption path, which in turn is stronger than the income or material goods consumption path [8].

## **2. Theoretical Analysis and Contributions**

With the continuous development of China's economy and social transformation, the income of rural residents has increased significantly and their living standards have improved significantly. According to Maslow's Hierarchy of Needs theory, when people's basic material needs are satisfied, they will pursue higher-level spiritual needs. Therefore, farmers begin to pay more attention to their real feelings and experiences, and care more and more about their happiness or not. From a macro perspective, exploring the subjective happiness of rural residents provides an important analytical tool and analytical ideas for a clearer understanding of the impact of non-economic factors on China's socio-economic development, and by analyzing the changes in farmers' subjective happiness and its influencing factors, it provides a further understanding of farmers' inner needs and improves their quality of life, as well as provides a subject-based perspective for the "three rural It is also an innovation to provide a subject-based perspective for the "three rural" policies. The country's comprehensive poverty eradication focuses on the improvement of material conditions. In fact, in rural areas, there is still an increase in income and a change in happiness, or even a lack of happiness. This research project starts from the challenge posed by Easterlin's paradox and explores the factors influencing happiness and its extent through an econometric study. Through the empirical analysis, we will further explore where the policy of "three rural areas" can be strengthened based on the happiness of the residents.

The necessary theoretical analysis and data possession are the basis for the scientific and innovative nature of this research to be realized. Compared with previous studies, the contributions of this paper are as follows.

### **2.1. Innovation in Subject Perspective**

The country's comprehensive poverty eradication focuses on the improvement of material conditions. In fact, in rural areas, there are still cases where income has increased and happiness has changed, or even happiness is not strong. This research topic starts from the challenge raised by Easterlin's paradox, and explores the factors influencing happiness and its degree through econometric research. Through the empirical analysis, we will further explore the areas where the policy of "three rural areas" can be strengthened based on the happiness of the residents.

### **2.2. To Provide New Policy Basis**

The important purpose of this research is to propose a policy focus point for enhancing farmers' happiness in the context of rural revitalization strategy. This provides an empirical basis and new ideas for the value orientation of local governments' "three rural" policies and public service policies. It ensures that the findings of the study have important policy reference value.

## **3. Analysis of Survey Results**

### **3.1. The Level of Farmers' Well-being is Upper Level**

In this study, one of the most important research indicators is the self-evaluation of farmers' happiness. Our self-evaluation scores of farmers' subjective happiness are ranked from low to high, corresponding to: (1) very unhappy; (2) relatively unhappy; (3) unable to say whether they are happy

or unhappy, that is, unable to accurately evaluate their happiness; (4) relatively happy; and (5) very happy, which is the highest evaluation of happiness level.

As shown in Figure 1, through the statistical analysis of this indicator, it is found that 35.36% of farmers are feeling relatively happy. 18.63% of farmers feel very happy. The proportion of those who could not say they were happy or unhappy accounted for 29.66%, indicating that some farmers could not accurately evaluate their level of happiness. The proportion of those who felt relatively unhappy was 10.65%, and the proportion of those who felt very unhappy was 3.8%. On the whole, farmers' subjective happiness evaluation scores are mostly above the medium level. Therefore, we believe that the overall score of farmers' subjective happiness evaluation is at the middle to upper level.

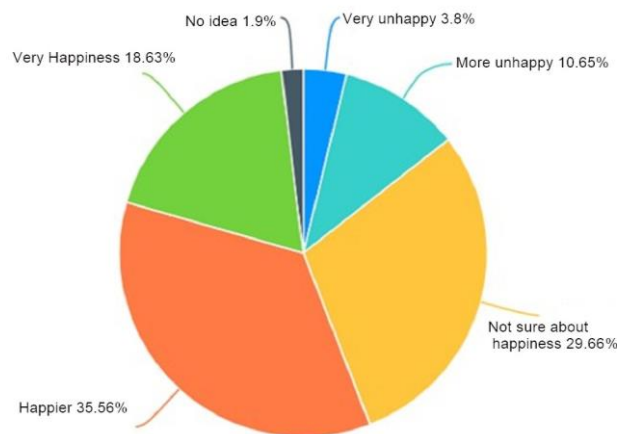


Figure 1: Overall evaluation of farmers' happiness

### 3.2. Farmers' Income has a Significant Impact on Well-being

#### 3.2.1. Basic Analysis of the Annual Income of Farmers

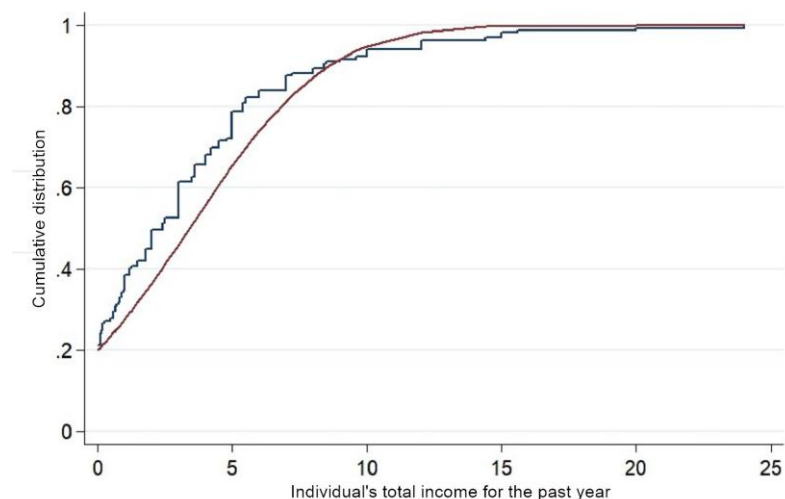


Figure 2: Cumulative distribution of farmers' annual income

We counted the annual income of the interviewed farmers and obtained the cumulative distribution of farmers' annual income. As shown in Figure 2, the cumulative distribution chart shows that 80% of farmers' annual income is below 50,000 RMB, and 90% of farmers' annual income is below 100,000 RMB. It indicates that the overall annual income of farmers seems to be under 100,000 yuan

in the majority, indicating that there is still a long way to go to improve the actual income level of farmers. Raising the income of rural residents still has a logical point of necessity in the rural revitalization strategy.

### 3.2.2. The Fitting between Farmers' Income and Happiness

We made a quadratic fit between respondents' subjective well-being scores and their total annual income, as shown in Figure 3. From such a change process that the quadratic fit curve increases and then decreases, for farmers with relatively low income, the higher the income level increases, the higher the farmers' subjective well-being. When the income reaches a certain critical level, it is around 100,000 yuan in the figure. The group of farmers whose income exceeds 100,000 has a lower rating of subjective well-being instead due to the high income. This shows that when the income level is low, the higher the farmers' income is, the higher their subjective well-being ratings are, and when the income exceeds a certain critical level, the contribution of income to farmers' well-being weakens and its marginal contribution is decreasing.

Therefore, we believe that the most important factor affecting farmers' happiness is income. Its effect on people's happiness is not simply a linear positive correlation. It indicates that a simple increase in income does not lead to a one-way increase in farmers' happiness. This is because other factors that affect farmers' happiness play a more important role in happiness when farmers' income enters a higher stage. We will analyze this below.

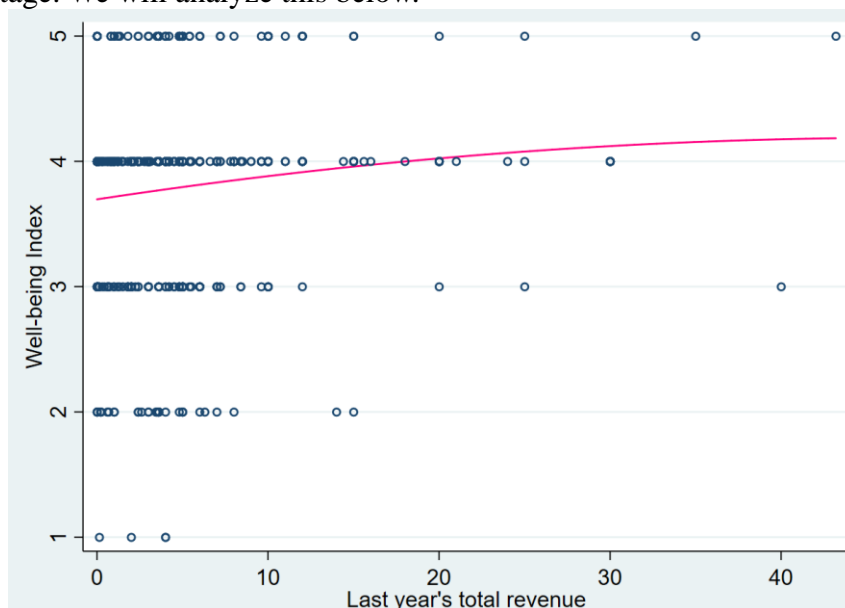


Figure 3: Fitting income to well-being

### 3.3. The Impact of Expenditure Structure on Farmers' Well-being is Heterogeneous

#### 3.3.1. Farmers' Expenditure and Well-being

We summed up the various consumption expenditures of the surveyed farm households. The Engel coefficient was obtained by comparing the food consumption in life with the total expenditure of farm households. As shown in Figure 4, in 2019, the mean value of the Engel coefficient of abundance in our country is 28.2%. From the cumulative distribution chart of Engel coefficient, it is found that less than 35% of farmers in the survey sample have Engel coefficients below 28.2%, indicating that most farmers' Engel coefficients are above the level of our country's affluence level. Of course, measuring

the quality of life of farmers through Engel coefficient is somewhat one-sided, because Engel coefficient, purely from the material life level of farmers, measures the living standard.

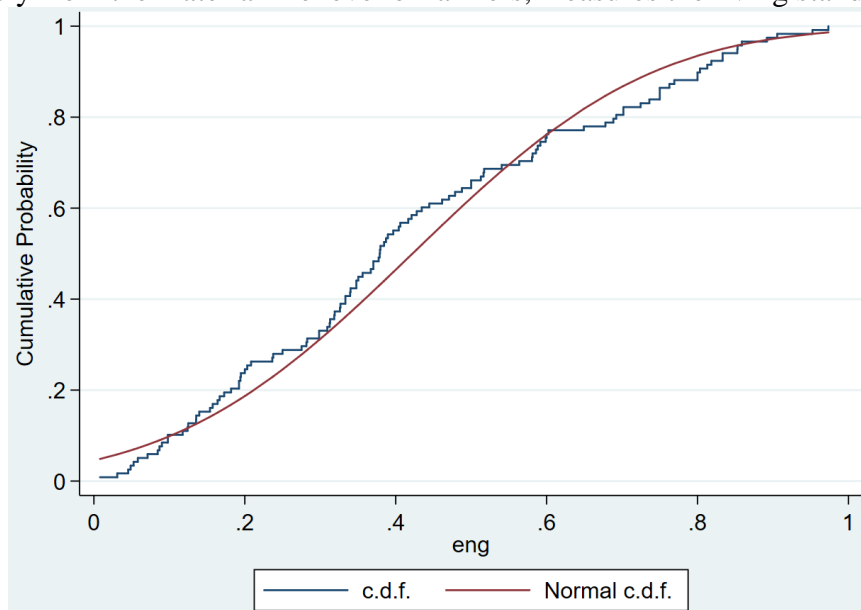


Figure 4: Cumulative distribution of Engel's coefficient

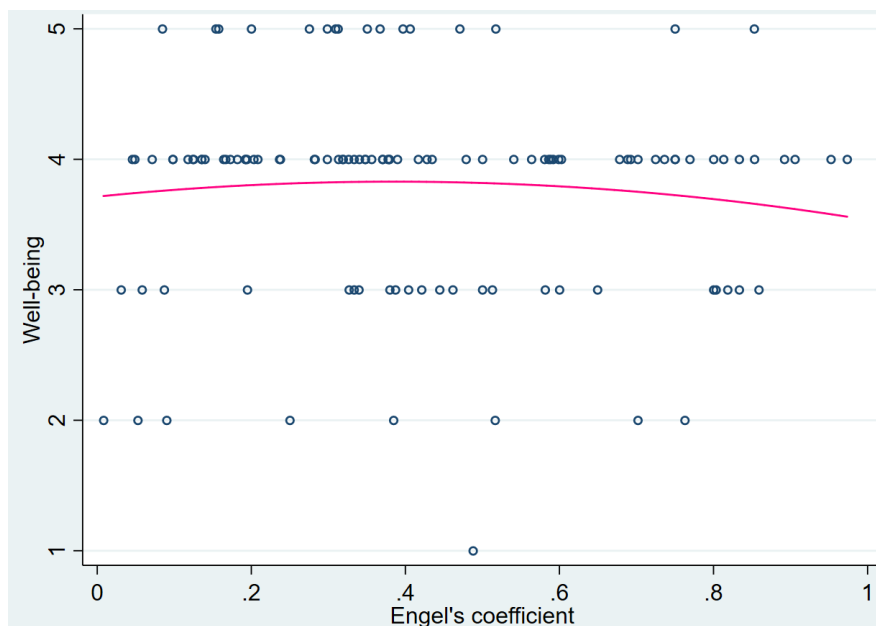


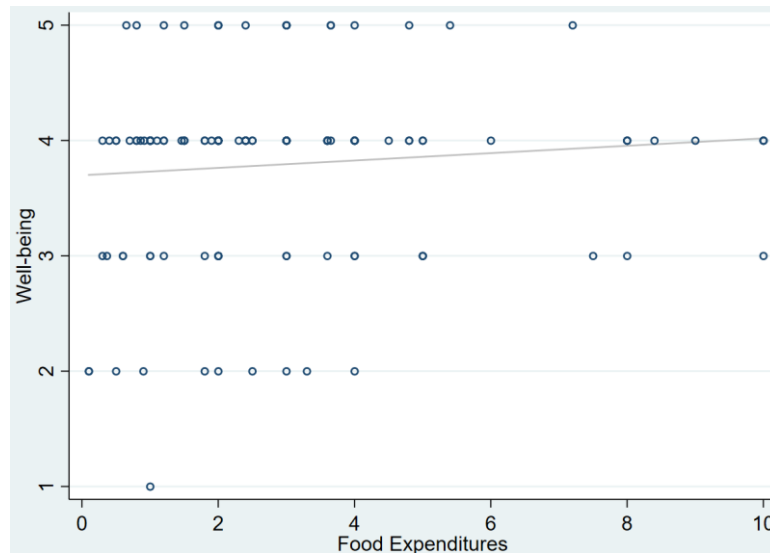
Figure 5: Engel's coefficient and happiness fit

We make a scatter plot of the Engel coefficient of the survey sample and the subjective well-being scores of the survey respondents and do a quadratic fit, as shown in Figure 5. Through the quadratic fit curve we can find that when the Engel coefficient of farmers is below the level of 65%, people's subjective well-being shows a positive correlation with the quality of life. However, when the Engel coefficient is greater than 65%, people's subjective well-being shows a negative relationship with the Engel coefficient. This again confirms that the mere improvement of material living standard does not necessarily increase people's happiness.

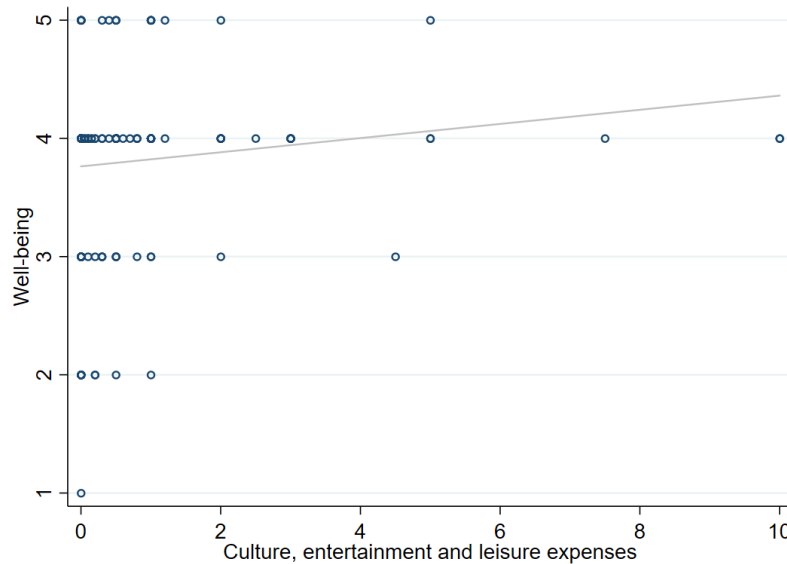
Through this fitted graph, we found that the Engel coefficient of farmers with the highest happiness rating is between 30% and 55%, as shown in the top scatter of Figure 5. For farmers with Engel

coefficients below 28%, their happiness ratings are between "relatively happy" and "not happy or unhappy", and there are even two farmers whose Engel coefficients are below 10% and whose happiness ratings are "very unhappy". Therefore, rural revitalization should give more policy support to low-income groups.

### 3.3.2. Heterogeneity Analysis on Classified Expenditure and Well-being



(A) Food expenditure and happiness fitting

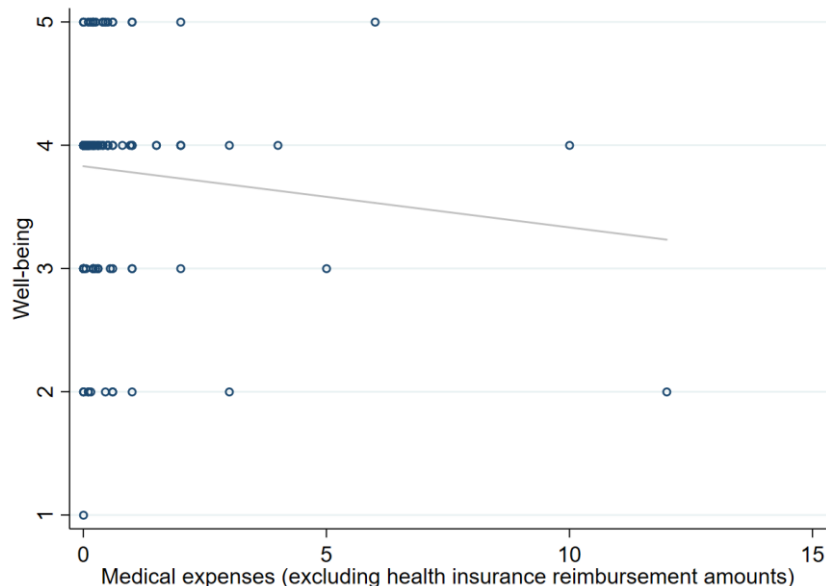


(B) Cultural, leisure and entertainment expenditures are fitted with happiness

Four graphs are included in Figure 6 to fit the four categories of expenditure on food; cultural and recreational expenditure; medical expenditure; and transportation expenditure with farmers' happiness. First, the fitted relationship between food expenditure and happiness. From the graph (A), it can be seen that the fitted curve of food expenditure and happiness has a slight upward trend, but the slope of the curve is small, indicating that the relationship between farmers' food expenditure and happiness is positively correlated, but this positive relationship is not obvious. Second, the relationship between cultural and recreational expenditures and happiness. From Figure (B), it can be seen that cultural and recreational expenditures are significantly and positively correlated with

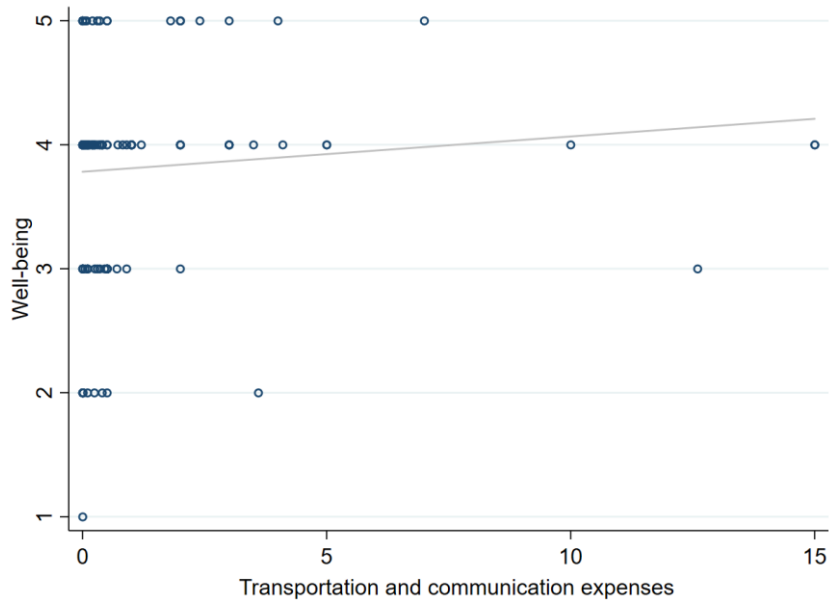
farmers' happiness. The fitted curve has an obvious upward trend, and its slope is greater than the slope of the fitted curve in Figure (A). Thirdly, from the fitted curve in Figure 6 (C), we can find that medical expenditure shows a negative correlation with farmers' happiness, but the slope of the fitted curve is smaller and this negative correlation is not obvious. However, we can assume that the presence of medical expenditures indicates that farmers' health suffers, which in turn reduces their well-being. The implied policy implication is the need to increase the proportion of medical insurance reimbursement and reduce the proportion of farmers' out-of-pocket medical expenses. Thus, when farmers' health is lost, the cost of treatment paid by farmers themselves is reduced. Fourth, as can be seen from the plot (D) in Figure 6, the fitted curve of transportation expenditures and farmers' happiness index is clearly trending downward. The slope of this fitted curve is larger, indicating that the higher the transportation expenditure, the lower the farmers' happiness, which indicates a significant negative effect of rural transportation on farmers' happiness. The relevance of this is that the transportation expenditure indicates that the farmer needs to work long distances, which reduces his quality of life and thus affects the happiness. This also indicates that the construction of transportation infrastructure for rural areas still needs to be strengthened, and supporting policies need to be introduced for the convenience of farmers' employment, and it is very important to solve the problem of employment in suitable places.

In conclusion, from the classification of expenditures, we found two types of factors that have a greater impact on farmers' happiness, one is transportation expenditures, which is the issue of farmers' operational convenience. The second is the expenditure on culture, leisure and entertainment at the level of spiritual satisfaction, which has a higher slope of the fitted curve, indicating that optimizing the content and quality of farmers' culture, leisure and entertainment services among the expenditures can help enhance farmers' happiness. Rural revitalization should not only attach importance to the construction of material civilization but also to the construction of spiritual civilization.



(C) Medical expenditure and well-being fitting





(D) Fitting transportation expenditure to well-being

Figure 6: Heterogeneity in the relationship between farmers' expenditure classification and happiness index

### 3.4. Physical and Mental Health has a Positive Effect on Farmers' Well-being

In terms of farmers' health statistics, 26.24% of the surveyed farmers are "very healthy". 37.64% of farmers were "relatively healthy". The health status of 25.86% of the farmers was "average". The percentage of farmers who were "relatively unhealthy" was 5.7%. The proportion of "very unhealthy" farmers was 1.9%. The cumulative distribution of farmers' health shows that more than 50% of the farmers are in the relatively healthy and very healthy level. This means that half of the farmers' health status is at the average level or below. This shows that there is still much room for improvement in the health status of surveyed farmers. Particular attention should be paid to the 5.7% of "relatively unhealthy" and 1.9% of "very unhealthy" farmers. As shown in Figure 7 and Figure 8.

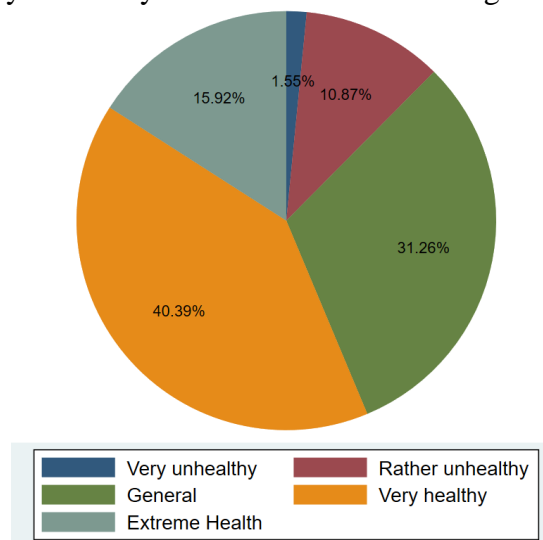


Figure 7: Health status of interviewed farmers

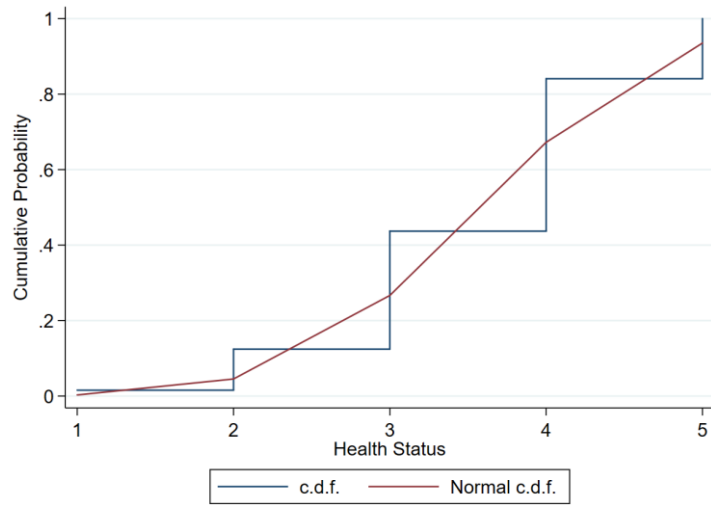


Figure 8: Cumulative distribution of farmers' health scores

The scatter plot of farmers' well-being scores and physical health scores shows that farmers' well-being is positively correlated with physical health. As shown in Figure 9, improving farmers' health requires the introduction of multiple policy measures. For example, the improvement of the conditions of basic fitness venues in rural areas, the improvement of the quality of the rural environment, and the improvement of farmers' employment environment.

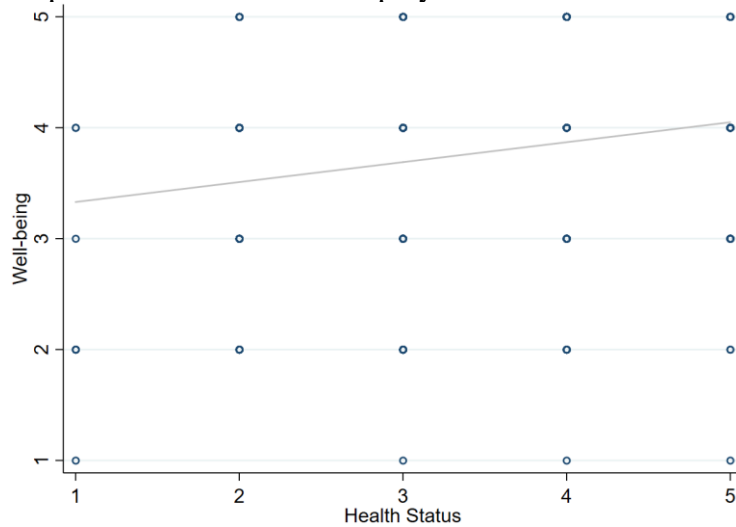
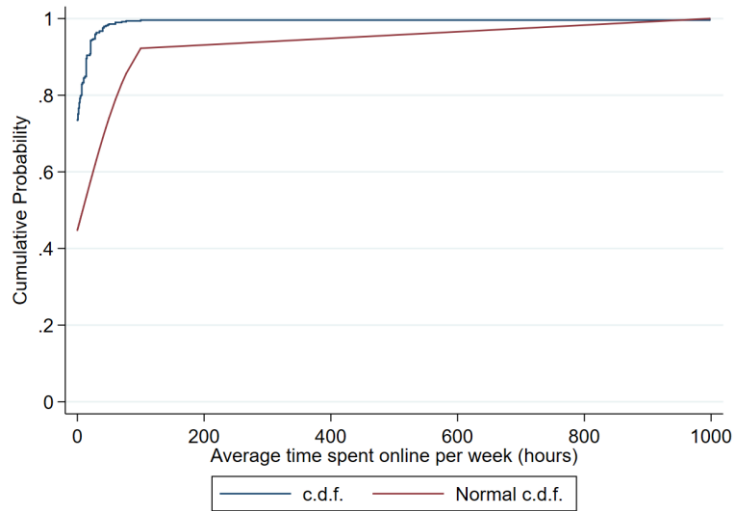


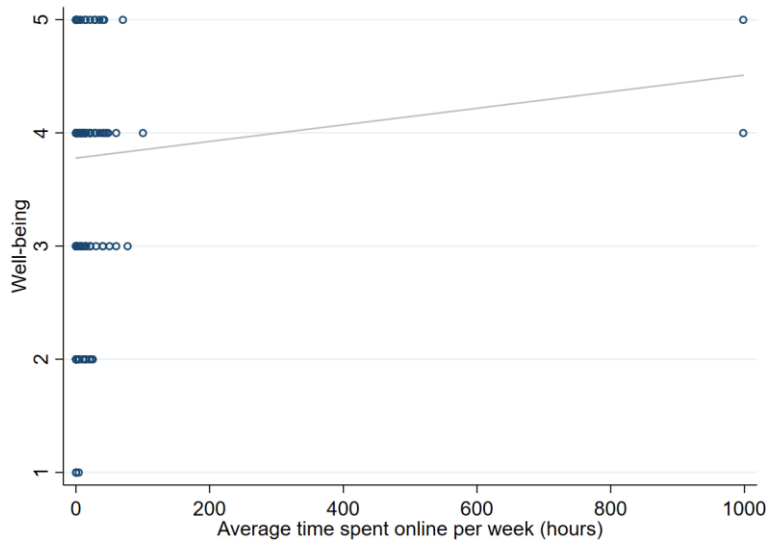
Figure 9: Fit of physical health and well-being

### 3.5. Participation of Internet Social Expands the Content of Happiness

As shown in Figure 10, the cumulative distribution of the average weekly hours of Internet access of the interviewed farmers shows that about 70% of farmers spend zero hours a week online, that is, they have no Internet access. The proportion of farmers who spend more than 20 hours a week online is less than 20%, indicating that overall farmers spend less time online. Farmers' lives are less dependent on cyberspace. As shown in Figure 10. The scatter of farmers' online hours and happiness scores as well as the fitted plot of the two can be seen. There is a positive correlation between the length of time spent online and farmers' happiness, indicating that Internet access can improve farmers' lives to a certain extent and happiness can bring happiness experience.



(A) Respondents' weekly Internet access hours



(B) Respondents' length of Internet access and happiness fit

Figure 10: Network Society and Respondents' Happiness

### 3.6. Educational Background and Farmers' Happiness

In terms of the distribution of education of the farmers interviewed, 19.77% had primary education. Those with only junior high school education accounted for 15.59%. Those who did not have any education accounted for 7.6%. Among them, 5.32% had received general high school education. It means that more than half of the farmers have received primary and junior high school education, and the proportion of farmers with high education above college specialist is very small.

As shown in Figure 11, the scatter plots and fitted curves of the surveyed farmers' education and happiness show that education and happiness do not show a positive relationship. Moreover, from the fitted curves, it can be seen that some of the survey respondents with the highest happiness ratings are at the level of junior high school, high school, and junior college. On the contrary, the happiness ratings of farmers who had received university education or above were in the middle level, i.e., they could not say whether they were "happy or unhappy".

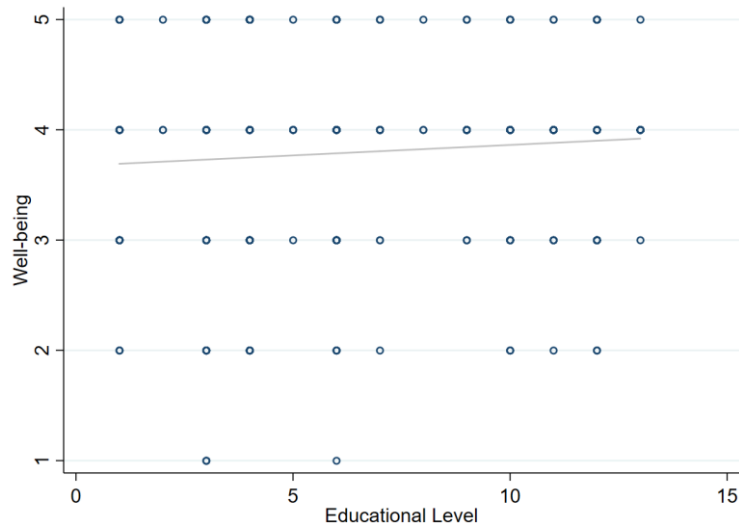


Figure 11: Farmer Education and Happiness Index

### 3.7. Social Security Helps Improve Farmers' Happiness

We conducted a survey on respondents' social insurance participation. The social security programs that respondents may participate in include: urban basic medical insurance, new rural cooperative medical insurance, social insurance for publicly funded medical care, urban basic pension insurance, rural basic pension insurance, commercial medical insurance, and commercial pension insurance. We constructed a social security index, assigning a value of one to participation in one of these insurance programs, and then summing the number of participants in these four categories. The higher the participation in the insurance program, the higher the rating of the social security program. The matrix relationship between farmers' social security program participation and their happiness scores reveals that there is a positive relationship between social security program participation and farmers' happiness. This can be found through Table 1.

The table shows that the percentage of "relatively happy" and "very happy" people who participate in one social security program is about 80%. The percentage of "relatively happy" and "very happy" participants in two social security programs is more than 80%.

Table 1: Respondents' social security participation and well-being evaluation matrix

Evaluation of farmers' happiness	Number of social security participation projects					Grand total
	0	1	2	3	4	
Very unhappy	3	7	0	0	0	10
Relatively unhappy	5	16	8	5	0	34
Not happy or unhappy	18	21	13	10	4	66
More happy	9	43	27	21	5	105
Very happy	10	16	9	13	0	48
Grand total	45	103	57	49	9	263

### 4. Conclusion

This paper examines the factors influencing farmers' happiness. Among the influencing factors, residential income is the most important one. Other factors have influential roles in different directions. Government public services have an important role in the improvement of residents'

happiness. The government should improve policies in the areas of farmers' income, health, education, and social security, and should also pay attention to rural infrastructure development. Then some suggestions are as follows.

#### **4.1. Increase Farmers' Income and Alleviate Relative Poverty**

Increase the proportion of farmers' income, especially labor remuneration, in national income. Implement precise poverty eradication to stimulate farmers' desire for income. Make farmers' subjective well-being the goal, focus on cultivating farmers' rational view of development, rational market behavior and rational income values, stimulate the desire for income, form endogenous development momentum, and precisely implement various assistance measures.

#### **4.2. The Combination Policy of Improving Farmers' Physical and Mental Health needs to be Launched Urgently**

Increase investment in the field of medical and health care take effective measures to ensure the health of rural residents, increase investment and management in the field of rural medical and health care, and increase the publicity and popularization of medical and health care knowledge to ensure the health of rural residents in order to maximize the well-being of rural residents. Enhance the well-being of farmers by paying attention to their physical and mental health.

#### **4.3. Improve the Level of Rural Infrastructure Construction**

Continue to increase investment in rural infrastructure construction. Improve rural production and living conditions, improve rural drinking water safety, power grids, roads, biogas, renovation of dilapidated houses and other small infrastructure construction directly related to rural people's livelihood, and focus on improving rural production and living conditions. The Internet infrastructure construction in rural areas should be continuously improved, and the reform of Internet speed and fee reduction should be increased, so that rural residents can have more sense of access and happiness in the use of the Internet. The "multiplier effect" of the Internet in rural employment and entrepreneurship and poverty alleviation should be explored to broaden the income and employment channels of rural residents, so as to further release the "happiness effect" brought by the Internet.

#### **4.4. Improve the Conditions and System of Farmers' Education**

Increase financial spending on education and improve cultural and educational standards. Increase the state's financial investment in education in rural areas, improve the construction of educational infrastructure in rural areas, and improve life satisfaction and happiness by providing spiritual solace. Local governments should strengthen investment in rural education, improve rural school attendance, provide training and education for farmers, and improve their cultural level, and should strengthen the supply of public culture in rural areas, improve the education level of farmers, promote rural economic development, and improve farmers' income levels and material living standards.

#### **4.5. Improve the Level of Rural Social Security**

Increase social security spending to eliminate unfair social factors. Social security can alleviate the negative impact of income disparity on residents' sense of well-being and access, reasonably allocate public resources, increase the proportion of basic public service areas such as education, health care and social security subsidies, eliminate inequitable factors through the power of the

government, and increase the proportion of medical reimbursement and the standard of basic pension payment, thus enhancing people's subjective sense of well-being.

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