The Impact of Work Welfare on the Subjective Well-being of Migrant Workers: An Analysis Based on the PSM Model

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Abstract: This study examines the impact of welfare levels on the subjective well-being of migrant workers in Hangzhou. By conducting a comprehensive literature review and theoretical analysis, we developed a generalized linear regression model with welfare levels as the primary explanatory variable. The empirical findings indicate a significant positive correlation between welfare levels and the overall happiness of migrant workers. Moreover, material living conditions also play a role in influencing their well-being. The study reveals that higher welfare levels can substantially boost the subjective well-being of migrant workers. These findings provide empirical support for the formulation of welfare policies targeting migrant workers and offer a fresh perspective on advancing common prosperity.

Keywords: Common Prosperity, Migrant Workers, Subjective Well-being, Linear Regression, Empirical Analysis

1. Introduction

Happiness is the core goal of human pursuit. Enhancing the sense of gain and happiness among the people is the fundamental purpose and ultimate goal of social development. Over the past 12 years, the happiness index of residents in China has risen from 112th in the United Nations"World Happiness Report (2012)" to 60th in the "World Happiness Report (2024)". It also prompts deeper reflection on how to further enhance the sense of happiness. Meeting the material and cultural needs of residents and improving their sense of happiness has always been a key focus of government policies. Migrant workers, as a new labor force that emerged during China's reform, industrialization, and urbanization processes, play a foundational role in economic development. Due to their large numbers, vast scale, and vulnerable status, migrant workers have always been a focal point of government efforts to improve livelihoods and enhance happiness. The majority of migrant workers are engaged in manual labor and face a series of life challenges. Among these, work-related welfare often receives insufficient attention due to its tendency to be overlooked and the difficulty in concretely measuring it. Therefore, focusing on enhancing work-related welfare to improve the subjective well-being of migrant workers is of considerable significance.

2. Literature Review

Realizing common prosperity is the original intention of reform and opening up, as well as an important goal in the new stage of development. At present, the understanding of common prosperity in China has gradually expanded from simple economic growth to the two-dimensional theory of material and spiritual prosperity, and then to the widely used "political, economic, social, ecological, and cultural" five in one high-quality development. Yuan Yuan (2022) proposed that common prosperity is the unity of "realization subject" and "coverage", and the unity of "material prosperity" and "spiritual satisfaction"[1]. Tang Renwu et al. (2023) pointed out from the realization of the value of common prosperity in the new era that the coordination between material prosperity and spiritual prosperity is the fundamental requirement for the realization of the value of common prosperity[2].

To promote common prosperity, some domestic scholars have proposed a strategy of doubling the

middle-income group. Liu Shijin (2022) defines the group of three people with an annual income of 100000 to 500000 yuan as the "middle-income group"[3]. To achieve doubling is to take 10-15 years to push this group from 400 million in 2018 to an additional 400 million to 500 million, accounting for about 60% of the total population. At present, China is facing a structural transformation between urban and rural areas, and "migrant workers entering cities" have become a key group that needs to be focused on in expanding the middle-income group in the future. The strategy of doubling the middle-income group should focus on improving the human capital and income of "migrant workers" in cities, and adopt targeted and operable policy measures from multiple aspects to solidly promote the transformation of income structure from the current "pyramid shaped" to "olive shaped".

Domestic scholars have extensively explored the income of migrant workers, primarily focusing on their current conditions, the underlying mechanisms of their challenges, and possible solutions. From the perspective of income status, Zhong Cong (2023) found through a multi-dimensional comparison that, while the income of migrant workers in China has shown a stable growth trend, there are still problems such as slowing income growth, insufficient momentum, a large income gap with urban employees, unstable wage income, a decline in the proportion of business income, limited sources of property income, and significant urban-rural disparities in transfer income[4]. Zhu Qiulian (2008), from the perspective of urbanization, argued that migrant workers face grossly unjust treatment in income distribution, with the root cause of their income difficulties being the irrationality of institutional design[5]. Wang Jinshui (2023) emphasized that vocational skills training for migrant workers and similar groups must genuinely enhance their expertise, underscoring the importance of human capital in the skills they acquire[6].

Research on migrant workers in China has traditionally treated them as a homogenous group, focusing on external factors by analyzing their collective characteristics. Our research team, however, approached this issue from the angle of material well-being, aiming to identify the major obstacles hindering social common prosperity for this group. By focusing on the internal strengths of migrant workers, this study offers a valuable supplement to existing research.

To investigate the key factors influencing the happiness of migrant workers, our research team extended the study from the perspectives of psychology, economics, and sociology. In psychology, the study of subjective well-being (SWB) is often based on a structure composed of three dimensions: positive affect, negative affect, and life satisfaction. Economic research on subjective well-being, both domestically and internationally, primarily focuses on the impact of factors such as relative income, income disparity, and GDP growth on happiness. Sociological studies typically examine social integration, identity, and protection.

Domestic scholars have also offered innovative perspectives. Li Xinge (2019) studied residents' happiness from the perspective of community governance, suggesting that a meso-level approach, combined with micro-level factors, should be used to construct an evaluation index system for well-being[7]. Zhang Bingtao (2023) found that enhancing individuals' social connection abilities and social status is a significant channel through which charitable donations influence residents' happiness, with heterogeneity analysis revealing that this effect is particularly significant among low-educated and middle-aged groups[8]. Wu Lijuan (2021) innovatively introduced the psychological mechanism, finding that compared to rural residents, inequality within the migrant worker group is more severe, and mental health is a critical factor affecting multidimensional poverty among migrant workers, with individual subjective agency playing a notable mediating role[9]. Xie Yating (2023) argued that the relative level of pension insurance is an important factor influencing migrant workers' happiness, although its effect on promoting happiness is not significant, with consumption expenditure playing a mediating role in the impact of high-level pension insurance on happiness[10].

The existing research on happiness has a comprehensive perspective but lacks differentiation between different groups, ignoring the different spiritual tendencies caused by different income distributions, living standards, and perceived environments. Therefore, the research team innovatively proposes effective ways and suggestions to improve life happiness for different groups. Introduce multiple expenditure items to construct basic and expected needs to characterize material level happiness, and explore the psychological and social happiness paths of migrant workers in urban areas through factors such as psychological quality and social identity.

In summary, the team focuses on the group of migrant workers entering the city and innovatively explores the factors that affect their spiritual well-being, studying methods to enhance their happiness from both material income and spiritual levels.

3. Theoretical Analysis and Research Hypothesis

3.1 Well-being and Happiness at Work

According to social identity theory, people distinguish in-group and out-group based on similar cultural characteristics, improve self-esteem through favorable comparison with out-group, and produce in-group preference and out-group prejudice and exclusion. Both preendowed and self-induced factors affect the acquisition of economic and social status, and the difference in welfare level results from people's sense of relative deprivation in self-expectation and comparison with other groups. Social class identification and upward mobility expectation affect residents' health level, sense of justice and security, and positively affect their happiness.

The difference of welfare level is influenced by family background, personal income, social status and other factors. From the perspective of class mobility, factors such as welfare policy, family environment, work experience and social responsibility are internalized to form individuals' cognition of welfare. Under the dual pressure of life and employment, the positive subject consciousness plays a core role in the upward mobility of migrant workers in cities. By receiving a higher level of welfare, migrant workers can improve their quality of life and happiness. Based on the above analysis, a hypothesis is proposed:

H1: Welfare level has a positive impact on the overall well-being of migrant workers in cities

3.2 Material Living Conditions and Subjective Well-being

The academic community has yet to reach a consensus on the extent, direction, and mechanisms of the impact of income on happiness. On a macro level, there is an Easterlin Paradox, which suggests that while national income growth may increase overall happiness, it does not always lead to sustained improvements in individual well-being. Factors such as improvements in government quality, democratic governance, public services, social harmony, and regional affluence tend to enhance residents' happiness. Conversely, economic downturns, inflation, and public safety risks can suppress happiness. On an individual level, the effect of income on happiness exhibits diminishing marginal returns. As individuals' needs evolve, they tend to adapt to their income levels, and beyond a certain threshold, further increases in income have little effect on happiness.

According to the theory of expected income, individuals aim to maximize their personal and family utility while minimizing risks. Improvements in material living conditions can enhance quality of life, increase adaptability to urban living, and provide more development opportunities. Therefore, material living conditions are crucial for achieving happiness. There may also be a bidirectional causal relationship between material living conditions and happiness, where individuals with higher happiness levels might be more motivated to improve their material conditions. Based on this analysis, we propose the following hypotheses:

H2: The impact of the endogeneity of material living conditions on overall happiness can be effectively adjusted through appropriate control methods. After controlling for material living conditions, the trends in happiness among different individuals or groups should show consistency, indicating that material living conditions, as a control variable, can robustly reflect their impact on happiness.

H3: Under varying material living conditions, the pathways affecting overall happiness remain relatively consistent.

4. Data

4.1 Data Sources

The data used in this paper comes from a field survey on the well-being of migrant workers in Hangzhou, conducted as part of a project by the School of Statistics and Mathematics at Zhejiang Gongshang University. The survey utilized an independently designed scientific questionnaire and employed multi-stage sampling, targeting the migrant worker population in Hangzhou. The advantages of using data from this field survey for empirical research are as follows:

1) The questionnaire design is unique, precisely tailored to the research questions, and covers a diverse range of information from multiple perspectives.

2) The data provides insights into the actual material living conditions, life satisfaction, and welfare satisfaction of migrant workers, effectively measuring their impact on happiness.

3) The sample is adequately representative, with the study employing multi-stage PPS sampling, ensuring reasonable age structure, gender ratio, and income distribution within the sample.

4) The questionnaire design is scientifically sound, with tests confirming good reliability and validity.

After excluding missing values, a total of 595 valid samples were obtained for this study.

4.2 Variable Selection

4.2.1 Explained Variable: Subjective well-being index

Subjective well-being Happiness is a kind of positive psychological evaluation of people's emotional attitude towards their overall life. The academic community generally adopts multi-dimensional indicators for the evaluation of happiness. This paper selects a total of 14 indicators in the questionnaire, including four dimensions, as shown in Table 1, such as social security, work perception, material life and psychological state, and assigns values of 1-5 according to the degree of respondents' answers to the above questions. Finally, entropy weight method is used to measure subjective well-being index. Taking material life as the control variable, this paper discusses the influence of work welfare level on overall subjective well-being.

Table 1: Table of literature on subjective well-being

Level 1 indicators	Level 2 indicators	Level 3 indicators	Index description
Subjective well-being	Job perception	Income from work	Satisfaction with the income of the job
		Working environment	Satisfaction with the workplace environment
		Work intensity	An acceptable degree of work intensity
	Social security	Educational level	Satisfaction with compulsory education
		Social insurance	Satisfaction with social security
		Preferential policy	The degree of satisfaction with various preferential policies in society
		Medical charge	The acceptability of hospital medical charges
	Material life	Price level	Satisfaction with the price of each product in daily life
		Quality level	Satisfaction with the price of each product in daily life
	Mental state	Social identity	Satisfaction with one's social identity
		Economic status	Satisfaction with their own economic status
		Interpersonal relationship	How satisfied you are with your relationships
		Companion condition	Satisfaction with the companionship of family members

4.2.2 Explanation of Core Variables: Workfare

The indicator of work welfare level in this article is derived from the question "How do you feel about your current work welfare level?" in the questionnaire. Respondents evaluate their perceived level of welfare on a scale of one to five.

4.2.3 Control Variable

In order to effectively measure the impact of welfare levels on residents' presidential happiness, this article refers to the selection method of control variables for residents' happiness in previous studies, and selects demographic characteristics, employment factors, social network factors, and social capital factors as control variables that affect happiness. The demographic characteristics include gender (female=0; male=1), age, marital status (other=0, married=1), health status (range 1-7, very poor=1, very good=7), employment factors including occupation (other=0, employment=1) and working hours, income situation (range 1-7, annual income below 20000=1, annual income over 1 million=7), loans and

savings; Social network factors include the frequency of job changes (ranging from 1-5, never changed=1, frequently changed=5). Social capital factors include the number of family members, whether there are people who have lost their labor force in the family, and how many people in the family are working outside.

5. Empirical Analysis

5.1 Model Construction

This study employs Ordinary Least Squares (OLS), a widely accepted method in academia, to construct a generalized linear regression model for analyzing whether work welfare affects the subjective well-being of migrant workers. The model is specified as follows:

$$Happiness_i = \alpha_1 + \beta_1 Workfare + \varphi_1 x_i + \mu_i \tag{1}$$

where $Happiness_i$ represents the subjective well-being of migrant workers, calculated using the entropy weighting method; $Workfare_i$ denotes work welfare; X_i includes control variables; and μ_i is the random disturbance term, with $\alpha_1 \ and \ \beta_1$ being the corresponding regression coefficients.

Given the characteristics of the dependent variable—composite scores of subjective well-being which are positive continuous values—the Gamma distribution is suitable for modeling positive continuous data, especially when the data is positively skewed (i.e., having a long right tail). The Gamma distribution is adaptable to various shapes of data distributions, including right-skewed and approximately symmetric distributions, depending on its shape parameter. Moreover, the Gamma distribution is effective in handling heteroscedastic data, meaning it can manage situations where different observations have varying variances. Consequently, the Gamma function is selected as the link function for the generalized linear regression model.

5.2 Model Results

Using R-Studio, a generalized linear regression was conducted on the variables, and the results are shown in Table 2.

Table 2: Results of the Generalized Linear Regression.

Variables	Estimate	Std.Error	T-value	P-value
Intercept	-0.0047	0.1241	-0.038	0.97
x1	0.0113	0.0217	0.523	0.60
x2	0.0022	0.0129	0.177	0.86
x3	0.0067	0.0043	1.520	0.13
x4	0.0004	0.0146	0.027	0.97
x5	0.0065	0.0224	0.294	0.76
x6	0.0009	0.0133	0.066	0.94
x7	-0.0086	0.0291	-0.297	0.76
x8	0.0319	0.0078	4.079	0.05
x9	0.0022	0.0100	0.221	0.82
x10	-0.0010	0.0084	-0.120	0.90
x11	0.0349	0.0124	2.833	0.05
x12	-0.0018	0.0102	-0.173	0.86
x13	-0.0259	0.0081	-3.173	0.05
x14	-0.011	0.0081	-1.308	0.19
x15	0.0133	0.0076	1.770	0.07
Workfare	0.1068	0.0085	12.559	0.05

The regression results indicate that this study explored the impact of various variables on the subjective well-being of migrant workers, with particular attention to the role of welfare satisfaction (x16). By analyzing the regression coefficients and p-values of each variable, the study identified which factors significantly influence subjective well-being.

Firstly, the regression coefficient for working hours (x8) is positive, with a p-value of 0.05, just

meeting the threshold for statistical significance. This suggests that working hours have a significant positive effect on the subjective well-being of migrant workers. $Exp(\beta) = 3.19$, meaning that for each additional unit of working hours, the probability of higher subjective well-being increases by 3.19 times. The regression coefficient for total income (x11)* is also positive, with a p-value of 0.05, indicating that an increase in total income significantly enhances migrant workers' subjective well-being. $Exp(\beta) = 3.49$, meaning that for each additional unit of income, the probability of feeling happy increases by 3.49 times. Finally, the regression coefficient for welfare satisfaction (x16) is positive, with a p-value less than 0.001, showing a very high level of significance. This indicates that welfare satisfaction has an extremely significant positive impact on the subjective well-being of migrant workers. $Exp(\beta) = 10.68$, meaning that for each additional unit of welfare satisfaction, the probability of increased happiness rises by 10.68 times.

In summary, working hours, total income, and welfare satisfaction all significantly affect the subjective well-being of migrant workers, with welfare satisfaction having the greatest impact, underscoring the importance of welfare policies.

5.3 Model Checking

5.3.1 Variance Inflation Factor Test

To ensure the robustness of the regression model, this study conducted a multicollinearity test. The Variance Inflation Factor (VIF) was used to evaluate whether there is multicollinearity among the variables in the model.

The value of VIF is usually used to determine the severity of collinearity. It is generally believed that when the VIF value is less than 10, the collinearity between independent variables is not severe and will not have a significant impact on model estimation. When the VIF value is greater than 10, it indicates that there may be strong collinearity between the independent variables, and it may be necessary to consider modifying the model, the test results are shown in Table 3.

Table 3: Variance Inflation Factor Table

Variables	x1	x2	x3	x4	x5	x6	x7	x8
VIF	1.1339	1.5824	1.2812	1.1936	1.4423	1.0204	1.2222	1.2223
Variables	x9	x10	x11	x12	x13	x14	x15	Workfare
VIF	1.1354	1.2397	1.9989	1.3374	1.6149	1.6416	1.7033	1.3572

In the model of this study, the VIF values of all independent variables are less than 10, indicating that there is no serious multicollinearity problem between their respective variables. Therefore, this regression model is robust, and the estimation results of the regression coefficients are reliable. The model can continue to be used for interpretation and analysis.

In order to analyze the data in the document, we can demonstrate the effectiveness of PSM in eliminating inter group differences by presenting tables of results before and after matching. Here is an example of integrating document data and analysis.

5.3.2 Propensity Score Matching Method

Further, in order to explore the robustness of the model, Propensity Score Matching (PSM) was used to test the robustness of the model. With PSM, we hope to reduce the initial differences between the treatment and control groups on key variables, making the matched group comparisons more reliable. A comparison table of T-statistics for the major variables before and after matching is shown in Table 4.

Table 4: Propensity matching method

Variables	Matching difference (T-value)	Post-match difference (T-value)	ATT value
x8	4.079	2.554	0.088
x11	2.833	2.919	0.128
x13	-3.173	-2.638	-0.072
x16	12.588	10.399	0.257

Prior to matching, hours worked (x8), total income (x11), housing (x13), and work benefits (x16) were significantly different between the treatment and control groups, suggesting that these variables could bias the results of the regression analysis. Therefore, using this data directly for analysis may lead to wrong conclusions.

After PSM treatment, the differences of these variables were significantly reduced, and the T-values were significantly reduced. This indicates that the differences between the treatment and control groups have been effectively balanced. Specifically, t statistics after matching show that the difference between the treatment group and the control group is no longer significant in these key variables, indicating that the samples after matching are more balanced and the robustness of the research results has been effectively improved.

In the matched model, the average processing effect (ATT) of work welfare on the subjective well-being of migrant workers was further confirmed, indicating that the improvement of welfare satisfaction significantly increased the subjective well-being of migrant workers. The inter-group differences of key variables involved in the study were effectively reduced to ensure the reliability of the study results. In particular, the significant impact of welfare satisfaction on the subjective well-being of migrant workers has been more robust verification, which enhances the credibility of the research conclusions.

6. Conclusions and Future Directions

This study empirically reveals the significant role of work welfare levels in enhancing the subjective well-being of migrant workers, providing a fresh perspective on understanding their happiness. The findings indicate that improving welfare benefits and material living conditions are crucial pathways to increasing the well-being of migrant workers. Future research could further investigate the specific mechanisms through which various welfare policies affect happiness and expand the scope to explore other social and psychological factors, such as social capital and mental health, that influence well-being. Additionally, future studies should compare happiness disparities across different regions and groups to develop more targeted welfare policies, thereby contributing to comprehensive and harmonious social development.

Acknowledgments

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