

Analysis of Influencing Factors and Countermeasure Research on Job Satisfaction of Construction Workers

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Abstract

By studying domestic and foreign literature on job satisfaction and combining with the characteristics of construction workers, this paper summarizes and identifies 17 influencing factors of job satisfaction of construction workers, collects relevant data from construction workers through questionnaire survey, and extracts four influencing factor dimensions using factor analysis method. The summary is named work condition factor, interpersonal factor, work reward factor and work itself factor. Then the fuzzy comprehensive evaluation method is used to quantify the relative importance of each influencing factor dimension. Finally, corresponding countermeasures and suggestions are put forward according to the characteristics of each facet to provide reference for improving our construction workers' job satisfaction.

Keywords

Construction Workers; Job Satisfaction; Influencing Factor.

1. Research Background

Construction industry as the pillar industry of our country has been rapid development in the 21st century. According to relevant statistics, during 2001 to 2020, the total production value of construction industry of our country rose from 1536156 billion yuan to 26394739 billion yuan, only 20 years the total production value growth rate of 1618.23%. However, construction industry in our country is still a labor-intensive industry. It still needs to rely on a large number of construction workers while developing rapidly. With the deepening of the reform and opening up, a large number of rural workers work in the city. The construction industry has become the main choice. Therefore, construction workers are already a huge occupation group in our country.

At the same time, we should also note that the problems exposed by the construction workers are also very serious. First of all, based on the special nature of work, construction workers have long been exposed to dust, noise, mud and other harsh environment, with hard working conditions, heavy work content and high risk of working environment. Moreover, special workers are also prone to occupational diseases. In terms of safety protection, construction industry undoubtedly belongs to the high-risk industry. According to relevant statistics, there were 773 safety accidents in China's construction industry in 2019, which is equivalent to an average of two accidents every day. In addition, most of our construction workers are migrant workers, who live apart from their family members for a long time, so it is difficult to guarantee the relationship between their husband and wife and the education of their children. Secondly, the phenomenon of construction workers' wages being in arrears is more common. At the end of every year or the completion of the project, there are construction workers at the door to demand accounts in the major media screen. As most construction workers have a low level of education, it is difficult to distinguish the standardization of labor contracts when they sign them, so that their legal rights are often not protected. Finally, in terms of skill training, except

for special jobs, construction workers are generally engaged in heavy manual labor, which has great constraints on their future career transformation. The principal contradiction in Chinese society at this stage is the contradiction between imbalanced and inadequate development and the people's ever-growing needs for a better life. As a huge professional group in our country, construction workers' quality of life is worrying. The above phenomena will have a great impact on the job satisfaction of construction workers in different degrees. When the demographic dividend is gradually disappearing in China, we should pay more attention to the job satisfaction of construction workers, change the stereotype of the traditional working state of construction workers in people's minds, and make construction workers become an ordinary but great occupational group.

2. Literature Review

At present, the research on influencing factors of job satisfaction of construction workers generally includes the following contents. Domestic scholar (Peng Peng et al.,2022) identified factors affecting the job satisfaction of construction workers through literature analysis, expert interview and field research, summarized six dimensions including salary and welfare, rights and interests protection, work itself, working environment, leaders and colleagues, and public service, and calculated the path coefficients of each dimension. Finally, effective measures are put forward to improve the job satisfaction of construction workers[1]. (Sun,2006) conducted a survey on the job satisfaction of 226 migrant workers in an enterprise in southern Jiangsu, and the results showed that their overall satisfaction was low, mainly reflected in the aspects of working hours, working environment and food conditions[2]. (Wang,2020) discussed the influencing factors of job satisfaction of the new generation of construction workers. The scholar pointed out seven key influencing factors, including education level, leadership style, job competency, career prospect, work remuneration, rights and interests protection, and work-family balance[3].(Zhang et al.,2018) studied the influencing factors of work well-being of urban migrant workers in the construction industry. The scholar, through expert analysis and the establishment of an orderly logistic regression model, concluded that the influencing factors mainly included eight aspects: work environment, work return, work intensity, social security, negative emotion, positive emotion, interpersonal relationship and self-development. Although there are many foreign studies on employee job satisfaction, in terms of engineering projects, most of them focus on cost engineers, engineers and project managers, and few of them focus on grassroots operators such as construction workers. However, there are also a small number of scholars from the perspective of construction workers to study their job satisfaction. (Zillante G et al.,2014) took Australian construction workers and found that work intensity and salary level were the main factors affecting their job satisfaction through a questionnaire survey. Secondly, the scholar also pointed out that workplace indifference and frustration were the main consequences of low job satisfaction[5]. (Malone E, 2010) believed that there were more and more female construction workers in the construction industry, so he conducted a study on the relationship between their job satisfaction and work-life balance. The study showed that the relationship between family balance, leadership style and workers and friends were the main factors affecting the job satisfaction of female construction workers[6]. (Okyere S et al. ,2015) conducted a questionnaire survey on construction workers in Ghana, and the results show that job recognition, task itself, working environment and rights and interests protection have greater impact on job satisfaction of construction employees than salary[7]. (Rita A et al. ,2019) pointed out the importance of job satisfaction to organizational performance and conducted a study on the influencing factors of job satisfaction of construction workers, among which salary, job security and career development prospects were the main influencing factors[11]. (Liao P W et al.,2016) studied the relationship between job

characteristics, organizational commitment and job satisfaction, and the results show that job characteristics have an indirect impact on job satisfaction through organizational commitment, including labor intensity, leadership style and management system[13].

To sum up, at present, a small number of scholars have carried out relevant studies on the job satisfaction of construction workers, and the influencing factors identified by these studies have certain reference significance for this study. However, in terms of research content, most studies have not summarized and classified their influencing factors, and lack of in-depth discussion on the impact of each influencing factor on the job satisfaction of construction workers. Based on this, this paper first uses factor analysis to sort out and classify each influencing factor, and then sorts its influencing degree through fuzzy comprehensive evaluation method. Finally, it puts forward corresponding suggestions for construction enterprises to improve the job satisfaction of construction workers.

3. Identification of Influencing Factors

By systematically reading a large number of domestic and foreign literature on job satisfaction of construction workers and combining with the actual situation of Chinese construction industry, this paper obtains 17 factors affecting job satisfaction of construction workers, as shown in Table 1.

Table 1. Influencing factors of job satisfaction of construction workers

Influencing factor	Factor interpretation	source
Working intensity IF1	The daily working hours and tasks of construction workers	[2][5]
Job sense of accomplishment IF2	A feeling of pleasure or pride in what a builder has done after completing a job	[1][3][19]
Vacation system IF3	The regular vacation system implemented by the department in order to protect the workers' right to rest	[3][18]
Income level IF4	Salary level for construction workers in your department	[5][11][20]
Pay on time IF5	Construction workers are paid by their department on a contractual basis	[3][9]
Balance with family IF6	Construction workers' marital status, children's education, family relations and other family harmony	[6][10][14]
Safety facilities IF7	Facilities set up at the work site to protect the personal safety of construction workers	[8][11][21]
Management system IF8	The management mechanism, management principles, management methods and management organization of the department	[12][13]
Accommodation environment IF9	Dormitory area, hardware equipment and other configuration	[3][8][17]
Protection of rights and interests IF10	The department buys five insurances and one fund for individuals, personal accident insurance and other protection measures	[1][7][11]
Leadership style IF11	The leadership model of the management team in the department	[6][19][22]

Influencing factor	Factor interpretation	source
Convenient life IF12	Construction workers can enjoy convenient life services after work, including food, clothing, housing, transportation and other aspects	[10][16]
Construction environment IF13	Construction site environment of the site	[1][7][17]
Development prospect IF14	The extent to which construction workers contribute to future development through this work	[4][5][11]
Dietary condition IF15	Food hygiene, price, quality and taste provided by the department canteen	[2][10][23]
Relationship with workmates IF16	The degree of harmony with the builders	[7][19][24]
Relationship with community residents IF17	The level of harmony between construction workers and local community residents in their daily lives	[10][16][23]

4. Questionnaire Investigation

Based on Table 1, on the basis of qualitative identification of 17 influencing factors of construction workers' job satisfaction, a questionnaire designed with the 5-point Likert scale was used to conduct quantitative analysis of the 17 influencing factors identified above, so as to identify the importance of each influencing factor. The survey object of this study is construction workers in construction units. The respondents need to choose the relative importance of factors based on their actual work situation and self real feelings through a 5-level scale (1-5 points indicate very disagree, disagree, average, agree, and very agree). A total of 230 questionnaires were distributed and 187 were effectively collected, with an effective recovery rate of 81.3%. The basic information of the survey subjects is shown in Table 2.

Table 2. Basic information of survey subjects

Basic information statistics item	option	Proportion (%)
Sexual distinction	Male	87.2
	Famale	12.8
Age	Under 20 years old	7.5
	21-30 years old	10.2
	31-40 years old	18.2
	41-50 years old	24.1
	51 years old and above	40.1
Years of Work	3 years and below	19.3
	3-5 years	20.3
	5-10years	25.7
	Over 10 years	34.8
Type of work in production	Steel reinforcement worker	15.5
	Carpentry	16.6
	Bricklayer	12.3
	Concreter	11.8
	Scaffolder	8.0
	Plumber and electrician	18.2
	Other	17.6

5. Classification of Influencing Factors

This article uses SPSS26.0 to analyze questionnaire survey data. The initial data will be subjected to mean analysis, reliability testing, and factor analysis.

5.1. Mean Analysis

Table 3. Preliminary Analysis of Questionnaire Results

influence factor	N	Minimum value	Maximum value	Mean value	Standard deviation
Working intensity IF1	187	1	5	3.674	1.184
Job sense of accomplishment IF2	187	1	5	3.545	0.979
Vacation system IF3	187	1	5	3.519	1.044
Income level IF4	187	1	5	4.064	0.920
Pay on time IF5	187	1	5	3.957	0.988
Balance with family IF6	187	1	5	3.583	1.186
Safety facilities IF7	187	1	5	3.524	1.049
Management system IF8	187	1	5	3.615	1.174
Accommodation environment IF9	187	2	5	3.545	0.940
Protection of rights and interests IF10	187	1	5	3.519	1.013
Leadership style IF11	187	1	5	3.599	1.129
Convenient life IF12	187	2	5	3.529	0.969
Construction environment IF13	187	2	5	3.599	0.945
Development prospect IF14	187	1	5	3.845	0.991
Dietary condition IF15	187	2	5	3.620	0.956
Relationship with workmates IF16	187	1	5	3.241	1.364
Relationship with community residents IF17	187	1	5	3.107	1.291

As shown in Table 3, the questionnaire survey results were first analyzed using mean analysis to obtain preliminary analysis results of various influencing factors on job satisfaction of construction workers. In the Likert 5-level scale, if the average score of a factor is greater than

3, it can be considered important, otherwise it will be deleted. From the table, it can be seen that the average of 17 influencing factors is greater than 3, indicating that all 17 influencing factors are important factors affecting job satisfaction of construction workers.

5.2. Factor Analysis

Factor analysis is a research method mainly used to study the correlation between various factors. This article uses SPSS 26.0 to evaluate whether the original factor indicator variables are suitable for factor analysis by analyzing the significance coefficients of KMO values and Bartlett's spherical test. The scale is only suitable for factor analysis when the KMO value is greater than or equal to 0.7 and the significance probability sig. of Bartlett's spherical test is less than 0.05. Table 4 shows the KMO values calculated using SPSS 26.0 and the significance values of Bartlett's spherical test. The KMO value is 0.841, greater than 0.7, and the significance probability sig. value of Bartlett's spherical test is 0.000, less than 0.05, indicating that the sample data is suitable for factor analysis.

Table 4. KMO values and Barrett sphericity test

KMO Sampling suitability quantity		0.841
KMO and Bartlett test	Approximate chi-square	2502.097
	Degree of Freedom Value	136
	Sig.	0.000

As shown in Table 5, the cumulative explanatory contribution rate of the first four variables is 78.691%, which is greater than the required 60%, indicating that the extracted principal components have strong explanatory power for the original variables. And there are a total of 4 variables with initial eigenvalues greater than 1, so the 17 influencing factors can be divided into 4 categories, namely the 4 major principal components.

Table 5. Explanation of Total Variance

Composition	Initial eigenvalue			Extract the load square variance			Sum of squares of rotational load		
	Total	Percentage of variance	Accumulate (%)	Total	Percentage of variance	Accumulate (%)	Total	Percentage of variance	Accumulate (%)
1	5.746	33.8	33.8	5.746	33.8	33.8	5.309	31.229	31.229
2	2.991	17.597	51.397	2.991	17.597	51.397	2.725	16.032	47.261
3	2.545	14.972	66.369	2.545	14.972	66.369	2.695	15.85	63.111
4	2.095	12.322	78.691	2.095	12.322	78.691	2.649	15.58	78.691
5	0.776	4.565	83.256						
6	0.40	2.35	85.606						
7	0.355	2.086	87.692						
8	0.31	1.822	89.514						
9	0.293	1.722	91.235						
10	0.267	1.572	92.808						
11	0.25	1.469	94.277						
12	0.219	1.288	95.565						
13	0.199	1.173	96.738						
14	0.183	1.074	97.812						
15	0.146	0.861	98.673						
16	0.13	0.766	99.439						
17	0.095	0.561	100						

According to the total variance explanation in Table 5, the corresponding component matrix is obtained by rotating it, as shown in Table 6. According to the rotated component matrix, it can

be seen that in Principal Component 1, it includes rights protection, dormitory environment, living convenience, food conditions, construction environment, vacation system, and safety facilities. The coefficients are 0.886, 0.878, 0.877, 0.867, 0.859, 0.841, and 0.827, respectively. By understanding the meanings of these seven influencing factors, they are classified as working condition factors.

Table 6. Rotating Component Matrix

	Component			
	1	2	3	4
Dietary condition IF15	0.886			
Protection of rights and interests IF10	0.878			
Accommodation environment IF9	0.877			
Convenient life IF12	0.867			
Construction environment IF13	0.859			
Safety facilities IF7	0.841			
Vacation system IF3	0.827			
Relationship with workmates IF16		0.957		
Relationship with community residents IF17		0.950		
Balance with family IF6		0.932		
Income level IF4			0.860	
Pay on time IF5			0.836	
Development prospect IF14			0.825	
Job sense of accomplishment IF2			0.683	
Management system IF8				0.936
Leadership style IF11				0.930
Working intensity IF1				0.923

Using the same method, principal component 2 is divided into interpersonal relationship factors, principal component 3 is job return factors, and principal component 4 is job itself factors. The above principal components are collectively referred to as the influencing factors of job satisfaction for construction workers, as shown in Table 7.

Table 7. Classification Results of Influencing Factors

Category	Principal component	Variable	Influencing factor
Work condition	Principal component 1	IF15	Dietary condition
	Principal component 1	IF10	Protection of rights and interests
	Principal component 1	IF9	Accommodation environment
	Principal component 1	IF12	Convenient life
	Principal component 1	IF13	Construction environment
	Principal component 1	IF7	Safety facilities
	Principal component 1	IF3	Vacation system
Interpersonal	Principal component 2	IF16	Relationship with workmates
	Principal component 2	IF17	Relationship with community residents
	Principal component 2	IF6	Balance with family
Work reward	Principal component 3	IF4	Income level
	Principal component 3	IF5	Pay on time
	Principal component 3	IF14	Development prospect
	Principal component 3	IF2	Job sense of accomplishment
Work itself	Principal component 4	IF8	Management system
	Principal component 4	IF11	Leadership style
	Principal component 4	IF1	Working intensity

5.3. Reliability Analysis

Reliability refers to the stability, reliability, and consistency of detection results. This article uses the Cronbach's Alpha coefficient as an indicator for testing reliability. The Cronbach's Alpha is between 0 and 1, and the larger the coefficient, the better. Generally, the Cronbach's Alpha coefficient is required to be greater than 0.7. As shown in Table 8, it can be seen that the Cronbach's Alpha coefficients of the work condition factor, interpersonal relationship factor, work return factor, and work itself factor scales in this study are 0.996, 0.966, 0.968, and 0.994, respectively, which far exceed the required 0.7. This indicates that the reliability and consistency of the questionnaire data are very high. These 17 factors are divided into four dimensions, and the reliability of each dimension meets the requirements.

Table 8. Reliability of Each Dimension of Sample Data

Facet	Number of questions	Cronbach's Alpha coefficient
Work condition factor	7	0.996
Interpersonal factor	3	0.966
Work reward factor	4	0.968
Work itself factor	3	0.994

Based on the above mean analysis, factor analysis and reliability analysis, the 17 influencing factors of construction workers' job satisfaction are successfully classified into 4 dimensions. The following will analyze and rank the impact degree of these four dimensions.

6. Significance Analysis of Influencing Factors

The job satisfaction of construction workers is affected by a variety of factors, and the degree of influence of each factor on their job satisfaction cannot be accurately evaluated quantitatively, which has certain fuzzy characteristics. Therefore, fuzzy comprehensive evaluation method can

be adopted to evaluate the uncertainty quantitatively. The model construction process is as follows.

(1)The four influential factor dimensions are taken as the first-level index and each influential factor as the second-level index. On this basis, the evaluation index system is established. The primary index for: {u₁,u₂,u₃,u₄}, the corresponding secondary indexes for: u₁= {u₁₁,u₁₂,u₁₃,u₁₄,u₁₅,u₁₆,u₁₇}, u₂= {u₂₁,u₂₂,u₂₃}, u₃= {u₃₁,u₃₂,u₃₃,u₃₄}, u₄= {u₄₁,u₄₂,u₄₃}.

(2)The comments set V= {1,2,3,4,5} was set as the evaluation level set composed of the evaluation results, and the corresponding comments were {strongly disagree, disagree, general, agree, strongly agree}.

(3)The fuzzy relation matrix R of each influencing factor dimension was calculated, and MF (Membership Function) was the corresponding fuzzy relation matrix of each influencing factor. Calculate the fuzzy relation matrix R, and the calculation formula is as follows:

$$R_i = \begin{pmatrix} MF_{ui1} \\ MF_{ui2} \\ MF_{ui3} \\ \dots \\ MF_{uin} \end{pmatrix}$$

$$MF_{uis} = \left(\frac{N_1}{N}, \frac{N_2}{N}, \frac{N_3}{N}, \frac{N_4}{N}, \frac{N_5}{N} \right)$$

There, Ni is the number of influential factors whose score is i, N is the total sample number, N=187 in this study. For example, working condition factors in the influencing factor dimension are calculated as follows:

$$MF_{ui1} = \left(\frac{4}{187}, \frac{26}{187}, \frac{60}{187}, \frac{63}{187}, \frac{34}{187} \right) = (0.021, 0.139, 0.321, 0.337, 0.182)$$

For other factors, calculated in the same way, we can obtain:

$$R_1 = \begin{pmatrix} MF_{u11} \\ MF_{u12} \\ MF_{u13} \\ \dots \\ MF_{u17} \end{pmatrix} = \begin{pmatrix} 0.021 & 0.139 & 0.321 & 0.337 & 0.182 \\ 0 & 0.160 & 0.289 & 0.396 & 0.155 \\ 0 & 0.155 & 0.348 & 0.310 & 0.187 \\ 0 & 0.128 & 0.332 & 0.332 & 0.209 \\ 0 & 0.128 & 0.337 & 0.342 & 0.193 \\ 0.027 & 0.112 & 0.401 & 0.235 & 0.225 \\ 0.011 & 0.187 & 0.273 & 0.326 & 0.203 \end{pmatrix}$$

(4)Determine the weight w of each influencing factor dimension. This paper calculates the weight of each factor according to the average value obtained from the mean value analysis. For example, for working condition factors:

$$w_{11} = \frac{3.519}{3.519 + 3.545 + 3.529 + 3.620 + 3.599 + 3.519 + 3.524} = 0.142$$

$$w_{12} = \frac{3.545}{3.519 + 3.545 + 3.529 + 3.620 + 3.599 + 3.519 + 3.524} = 0.143$$

$$w_{13} = \frac{3.529}{3.519 + 3.545 + 3.529 + 3.620 + 3.599 + 3.519 + 3.524} = 0.142$$

$$w_{14} = \frac{3.620}{3.519 + 3.545 + 3.529 + 3.620 + 3.599 + 3.519 + 3.524} = 0.146$$

$$w_{15} = \frac{3.599}{3.519 + 3.545 + 3.529 + 3.620 + 3.599 + 3.519 + 3.524} = 0.145$$

$$w_{16} = \frac{3.519}{3.519 + 3.545 + 3.529 + 3.620 + 3.599 + 3.519 + 3.524} = 0.138$$

$$w_{17} = \frac{3.524}{3.519 + 3.545 + 3.529 + 3.620 + 3.599 + 3.519 + 3.524} = 0.142$$

So, w₁=(w₁₁,w₁₂,w₁₃,w₁₄,w₁₅,w₁₆,w₁₇)=(0.142, 0.143, 0.142, 0.146, 0.145, 0.138,0.142)

(5) Synthesize fuzzy comprehensive evaluation result vector D.

$$D_i = w_i \cdot R_i$$

$$D_1 = w_1 \cdot R_1 = (0.142, 0.143, 0.142, 0.146, 0.145, 0.138, 0.142) \times \begin{pmatrix} 0.021 & 0.139 & 0.321 & 0.337 & 0.182 \\ 0 & 0.160 & 0.289 & 0.396 & 0.155 \\ 0 & 0.155 & 0.348 & 0.310 & 0.187 \\ 0 & 0.128 & 0.332 & 0.332 & 0.209 \\ 0 & 0.128 & 0.337 & 0.342 & 0.193 \\ 0.027 & 0.112 & 0.401 & 0.235 & 0.225 \\ 0.011 & 0.187 & 0.273 & 0.326 & 0.203 \end{pmatrix} = (0.008, 0.144, 0.329, 0.326, 0.194)$$

(6) Calculate the comprehensive impact index S_i of the influencing factor plane.

$$S_i = D_i \cdot V^T$$

$$S_1 = D_1 \cdot V^T = (0.008, 0.144, 0.329, 0.326, 0.194) \times (1, 2, 3, 4, 5)^T = 3.557$$

Similarly, the other three influencing factors are calculated using the above steps to obtain the corresponding impact index, as shown in Table 9. From this, it can be concluded that the importance of various factors affecting job satisfaction among construction workers is in order of job return factor, job itself factor, work condition factor, and interpersonal relationship factor.

Table 9. Ranking of Impact Index

Principal component	Classification	Impact index(S_i)	Ranking
1	Work condition factor	3.557	3
2	Interpersonal factor	3.330	4
3	Work reward factor	3.862	1
4	Work itself factor	3.629	2

7. Discussion and Suggestions

As a special group of workers in China, construction workers are the main force in construction projects. However, there are problems such as severe aging, low skill quality, and lack of protection of legitimate rights and interests, which seriously restrict the sustainable and healthy development of the construction industry. At present, the birth rate of our country is gradually decreasing. While the demographic dividend is about to disappear, we should pay more attention to the job satisfaction of construction workers. This article proposes the following improvement measures to improve the job satisfaction of construction workers based on the conclusions obtained from the above survey data.

Improve job returns for construction workers. Firstly, based on the above analysis, it can be concluded that income level is the biggest factor affecting job satisfaction among construction workers. Most construction workers go out to work in order to obtain higher incomes and improve the living standards of their families. However, construction workers are often in arrears with their wages. Therefore, government departments should strengthen the supervision of construction units over the payment of construction workers' wages, facilitate the reporting and complaint platform for construction workers, and enable them to obtain their own labor income on time. Secondly, the salary system for construction workers should also be improved. While ensuring the basic salary of construction workers, the salary structure such as bonuses, allowances, and insurance should be optimized. The salary level line for construction workers should be announced and the minimum work standards should be set. Finally, provide free continuing education opportunities for construction workers and improve the combination of training and certification. At present, only special types of work in the construction industry are employed with certificates, but with the gradual industrialization of the construction industry, prefabricated building have been developing rapidly, and the

construction skills of construction workers should also be continuously trained. Introducing an assessment mechanism, by obtaining skill certificates for relevant professions and linking them to job compensation, can greatly improve the work enthusiasm and fairness of wages and salaries of construction workers, thereby cultivating a group of high-quality construction workers for the country and promoting the healthy development of the construction industry.

Optimize the nature of work for construction workers. Firstly, the construction unit should reasonably arrange the construction organization design to avoid the project being in a rush phase for a long time, thereby increasing the labor intensity of construction workers, improving the 8-hour working system, and providing a certain amount of overtime pay for overtime hours. Secondly, the construction unit also needs to improve the employment management mode of the construction site. By formulating reasonable rules and regulations, timely collecting feedback information from construction workers and making adjustments, a humanized management method can effectively improve the job satisfaction of construction workers.

Improve the working conditions of construction workers. Firstly, the government should optimize the social security system for construction workers. Although China has established a social security system for migrant workers, the implementation effect of construction workers has not reached the ideal state due to their high mobility, low cultural level, and complex operating procedures. Secondly, strengthen supervision over construction units and promote them to purchase necessary personal insurance, five insurances and one fund for construction workers, ensuring their basic rights and interests. Furthermore, improving the food and dormitory living conditions of construction workers, who mostly engage in physical labor, can effectively improve job satisfaction by improving their food and rest conditions. Finally, the construction unit should also improve construction safety equipment, equip construction workers with high-quality safety helmets, safety ropes, and safety clothing to ensure construction safety, and reduce the occurrence of construction safety accidents.

Strengthen interpersonal relationships among construction workers. Among the interpersonal factors influencing job satisfaction among construction workers, work family balance accounts for the largest proportion. It is understood that most construction workers go out to work, leaving their children and elderly at home, resulting in the current phenomenon of "left behind children" and "empty nest elderly". The relevant government departments should deepen the reform of the registered residence system, eliminate the registered residence system as a barrier for children to go to school in other places, so that children of construction workers can also enjoy equal educational opportunities and the right to enter higher education in their workplace. Secondly, construction units should strengthen their humanistic care and spiritual motivation for construction workers, provide them with reasonable family leave, enhance their sense of organizational belonging, regularly organize cultural and artistic activities on the construction site, enhance emotional communication among workers, and thus improve job satisfaction.

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