An Exploratory Taxonomy of Job Quality of the Working Poor based on Hierarchical Cluster and K-Means Cluster Analysis

Yijia Wang, Haijie Yin[*] and Ji Wu

School of Humanities and Social Sciences, Harbin Institute of Technology, Harbin, Heilongjiang province, 150001, P.R.China
* Corresponding author: Haijie Yin (yhjie@hit.edu.cn)

Abstract

This article shows an analysis of job types which deepens the understanding of job quality of the working poor in the Northeast of China. Hierarchical cluster analysis and K-Means cluster analysis are adopted to develop taxonomy of four job types: vulnerable jobs, insecure jobs, environmental advantage jobs, and relatively saturated jobs. In these four job types, vulnerable jobs are characterized by low income, poor labor insurance, adverse working environment and little chances for future development. Environmental advantage jobs are characterized by relatively better working environment, but the conditions of other three aspects of job quality are lower than the average level of the sample. Insecure jobs are characterized by extremely poor condition on labor security and evidently higher income level. The conditions of working environment and vocational development in this job types are evidently lower than the average levels of the sample. Relatively saturated jobs are characterized by higher income, and better labor security. The working environment and vocational development are just at the average level of the sample.

1. Introduction

The belief that employment growth is fundamental in the fight against poverty and social exclusion has long been and continues to be a core of the economic strategy among developed countries [1-2]. Despite all these strategic directions, empirical researches have shown that working poverty has become a serious socio-economic problem. The working poor are individuals who have jobs but do not earn enough to maintain a conventional standard of living in their community [3-4].According to the U.S. Census Bureau, around 23.2% of the poor (around 10.5 million) are among the "working poor" in 2012, and are characterized by female, Black and Hispanic, young and low-skilled [5]. In 2011, statistical data offered by Eurostat Database shows that the working poverty is widely spread at EU level, and 8.9% of working age population is exposed to the risk of working poverty though there are significant differences between countries [6]. Recently, the working poor problem appears frequently among developing countries such as South Africa and Romania [6-7].The working poverty has become an international issue.

Despite the intentions of government and researchers, China continues to experience one of the highest levels of income inequality in the world. Although the average family incomes have risen since 1990s, not everyone shares equally in the prosperity. The proportion of working households living in a poor condition has increased after the reform of the economic system in China despite the continuous economic growth in the following two decades, and the "working poor" has become a significant type of poverty. Although there is no official record on the definition and population of the working poor, there is a growing awareness of the working poverty problem in China. Researches have shown several similarities between the working poor in China and those in other countries. For

example, Families headed by women, single parent, young adults, and low educated workers continue to be the high risk group of working poverty [8-11]. Employees from manufacturing, trade, services, crafts and repairs are more likely to work under the conditions of low income, less labor insurance, adverse environment, and narrow space of development, and therefore are more vulnerable to working poverty [12-15]. These researches have focused on demographic characteristics or a particular facet of employment conditions of the working poor, *e.g*. income level, employment stability and working environment, but few of them have deepen the understanding on the job quality of the working poor as a whole. More specifically, there is few studies have focused on the job quality of the working poor from a integrity view, particularly in developing countries like those in China. Internationally, even though empirical evidence from the developed countries like the USA and Europe exists, such evidence has very seldom been corroborated in a Chinese research context. Meanwhile, it is hard to the current researches to explain a question: if the whole qualities of two types of jobs are similar, is it the case that these two low quality (or high-quality) jobs are similar to the working poor? For example, one type of low quality job combines with long working hours, adverse working environment but high income, while another one combines with good working environment, unsocial working hours but low income.

In order to answer these question, our study serves to develop a taxonomy of job types on the working poor in a Chinese context. The article is organized as follows. First, a literature review on job types and job quality is presented, following which the study design, sampling and measures are outlined. There are followed by results analysis. Finally, conclusion and limitations are given.

2. Study Design, Measures and Sampling

2.1. Study Design, and Measures

It is difficult to describe how poor people in working families are because the poverty estimates in China is based on the living condition of the non-working families. Therefore, the official poverty line in China does not account for the living condition of the working poor families which involved in obtaining work and otherwise earning a living. In order to distinguish the working poor families from the non-working families and normal working families, this study used the International Poverty Line Standard (IPLS) to determine the working poor. IPLS is a measure of relative poverty defines "poverty" as being below some relative poverty threshold. In this study, those individuals who are employed and whose household income is below 50% of national median income are considered as the working poor. According to the data provided by National Bureau of Statistics of China, the national median income in China is CNY13479.5 (about USD 2077.2) in 2013, and this number is taken as the IPLS in this study.

In this study, researchers design an index system to describe the job quality of the working poor. In this system, income, working hours, working security, working environment and vocational development are considered to be five key aspects explaining an employee's job quality, and 11 indices is designed to measure the job quality of the working poor (see Table 1). Income and working hours are measured by numerical values. Working environment includes two indices: damages for physical health and sanitary condition on working environment, and are measured on a Likert scale with five points (from '1=very bad' to '5=very good'). Labor security includes 6 indices: labor contract, endowment insurance, medical insurance, unemployment insurance, employment injury insurance, maternity insurance and housing fund. In the 6 indices, labor contract consists of 3 choices: 0=no contract; 1=oral contract; 2= formal contract and the rest of the indices are measured by asking whether the employee has these insurances (0=no, 1=yes).

Table1. Aspects and Indices of Job Quality

Aspects	Indices
Income	Monthly Income
Working Hours	Working hours per week
Working Environment	Suitability for working
	Sanitary Condition
Labor security	Labor Contract Form
	Endowment Insurance
	Medical Insurance
	Unemployment Insurance
	Employment Injury Insurance
	Maternity Insurance
	Housing Fund
Vocational Development	On-job Training
	Promotion Possibility

In this study, factor analysis is used to simplify the index system. Hierarchical cluster analysis is used to ensure the number of cluster. Based on the result of hierarchical cluster, K-Means cluster analysis is used to develop a taxonomy of the job quality of the working poor. Descriptive statistics are used to present the characteristics of each job type, including percentages and means.

2.2. Sampling

The sampling of this study took place during 2013 in Shenyang and Changchun. Harbin was added as study sites 1 year later to expand the study's scope to include midsize and large cities with populations of the working poor. Using convenience sampling, researchers and trained research assistants chose respondents from their working units. Inclusion criteria for study participation were (a) being 16 to 65 years of age; (b) having be working in at least before the interview; and (c) per capital income is lower than half of the national income per capita in 2013 (CNY13479.5, about USD2,049). After permissions from the supervisors, researchers and trained research assistants administered a 15 to 30 min semistructured interview to examine the working poor' conditions of employment, gender, age, and education. Interviewees were compensated (either USD2.0 or an equivalent gift) for the interview. All the information had been recorded on a questionnaire. Students from Harbin Institute of Technology were recruited to assist with the collection of the questionnaires and data entry. Of the 1256 questionnaires distributed, 1051 were returned, and 1000 were usable, yielding a response rate of 79.6%.

2.3. Respondent Profile

The demographic statistics of respondents is shown on Table 2. This profile shows that the number of male respondents is a little more than female (51.5%; 48.5%). The most active age group in the respondents is the one between 21-30 years (52.2%). Over half of the respondents (68.4%) are with educational level below high school, and the majority of them belong to service sector (43.5%).

Table 2. Sample Demographic Characteristics

		Frequency	Percentage
Gender	Male	515	51.5
	Female	485	48.5
	Total	1000	100.0
Age	$\leqq 20$	35	3.5
	21-30	522	52.2
	$\geqq 30$	443	44.3
	Total	1000	100.0
Educational level	High school or below high school	684	68.4
	College	175	17.5
	University	141	14.1
	Total	1000	100.0
Industry	Service	435	43.5
	Manufacturing/Transporting	199	19.9
	Clerks and relevant personnel	200	20.0
	casual labor	136	13.6
	Other	30	3.0
	Total	1000	100.0

3. Results

3.1. The Simplification of the Index System

At the beginning of analysis, researchers attempted to develop a taxonomy of job types according to the job quality indices directly. However, most of the indices are measured with different methods and dimensions. To classify the job types based on the indices directly would have been adverse to find the characteristics among different job types. Based on the analysis above, researchers use factor analysis firstly to extract several main components from these indices in order to simplify the index system so that it can be brief enough for classification.

Before the factor analysis, researchers use Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's test of sphericity to test the appropriateness of using factor analysis on the data. These two approaches are commonly adopted among scientific research. The former test describes the difference between the partial correlations and the original correlations, and the result should be greater than 0.5 [16]. The later one using Chi-square test to examine whether the variables are significantly uncorrelated, the significance of the result should less than 0.05. In this study, the value of KMO is 0.843 and the Bartlett X^2 value is significant at 0.05 level ($X^2 = 5897.12$, $p= 0.000$). The results indicate that the data is suitable for factor analysis.

Factors are extracted by principal component. To determine the number of factors for retaining, the Kaiser's criteria (eigenvalue > 1 rule) and the parallel analysis are chosen, and 4 initial factors are extracted which accounting for 67.2% of the total variance. The orthogonal rotation with the varimax technique is then performed, and the items loaded more than 0.60 on each factor can be useful reference for labeling the factors [17-18].The details of the 4 factors are shown on Table 3. Factor 1 (F_1) includes 7 items, which combine features on formal/informal employment and labor security, and the items related to labor security are with significantly high factor loadings. Therefore, this factor is labeled as Labor security. Factor 2 (F_2) is named working environment because of the high factor loading on items related to physical working conditions such as sanitary condition and suitability for working. Factor 3

(F_3) has a feature in the conditions of on-job training and promotion possibility of the respondents, and hence labeled as vocational development. Factor 4 (F_4) includes only 1 item monthly income with a factor loading of 0.788, and therefore is named income. According to the result of factor analysis, the 5 main focused areas of job quality can be summarized into 4 factors, and the whole index system has been simplified and brief enough for classifying.

Table 3. Rotated Component Matrixa

Components	F_1	F_2	F_3	F_4
Monthly Income	0.170	0.212	-0.051	**0.788**
Working hours per week	-0.393	-0.265	-0.147	0.356
Labor Contract Form	**0.654**	0.367	0.120	-0.115
Endowment Insurance	**0.781**	0.262	-0.068	-0.209
Medical Insurance	**0.760**	0.270	-0.074	-0.252
Unemployment Insurance	**0.836**	0.048	0.099	0.198
Employment Injury Insurance	**0.867**	0.096	0.088	0.087
Maternity Insurance	**0.824**	-0.041	0.095	0.265
Housing Fund	**0.667**	-0.065	0.182	0.350
On-job Training	0.161	0.285	**0.573**	0.016
Promotion Possibility	-0.002	-0.004	**0.861**	-0.075
Suitability for Working	0.139	**0.856**	0.115	0.083
Sanitary Condition	0.092	**0.869**	0.105	0.068

a. Rotation converged in 11 iterations

After labeling the factors, researchers also calculate the factors scores by computer. Figure1 presents the distributions of 4 factor scores (zero point represented the mean of each factor score). According to the histogram below, the distributions of labor security score and vocational development score are with evidently right skewness, suggesting that over half of the jobs are with poor labor security and vocational development. The distribution of working environment score is with slightly left skewness, reflecting that at least half of the jobs are with relatively adverse physical environment. The distributions of the factor scores show that the quality of jobs in this sample is significant different in various aspects. Therefore, it is necessary to develop a taxonomy of the working poor's job types so that the differences among respondents can be understood clearly.
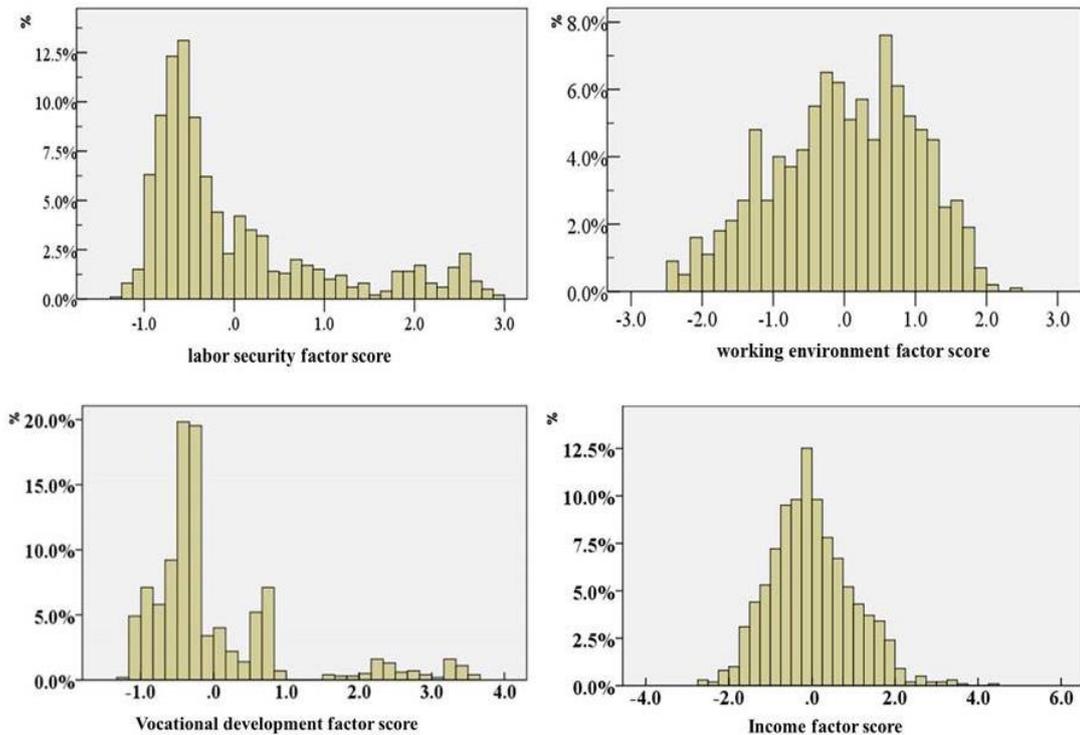
Figure 1. The Distribution of 4 Factor Scores

4.2. The Job Types of the Working Poor

In order to verify the numbers of optimal clusters, a hierarchical cluster analysis is adopted referring to the 4 factors. After calculating the quantitative spacing among cases by between-groups linkage, within-group linkage and Wald method respectively, all the results indicate a 4 cluster option. Therefore, it is finally decided that the optimal number of clusters is 4. According to the result of the hierarchical cluster, a K-Means cluster analysis is performed.

Table 4 shows the final cluster centers of the 4 clusters. In cluster1, the 4 final cluster centers are all below zero, indicating that jobs in this cluster are at lower than average levels on all 4 aspects of job quality. In cluster 2, 2 cluster centers are below zero while the other 2 above. Among these cluster centers, the center of working environment score is the highest, expressing that the jobs in this cluster are with relatively better working environment. In cluster 3, 3 cluster centers are below zero, especially the center of labor security, implying that the jobs in this cluster are with lower labor security, and employees are more vulnerable to the risks during working. In cluster 4, 3 cluster centers are above zero, suggesting that the jobs in this cluster are with relatively higher job quality. From the statistics on Table 4, the characteristics of each cluster on different aspects of job quality are clearly exhibited, which proves the validity of the cluster analysis, and the interpretation of each cluster now follows.

Table 4. Final Cluster Centers

REGR factor score	cluster			
	1	2	3	4
Labor security score	-0.115	-0.140	-0.653	2.079
Working environment score	-0.230	0.030	-0.287	-0.026
Vocational development score	-0.344	2.695	-0.248	0.065
Income score	-0.698	-0.286	0.775	0.685

Vulnerable Jobs. Cluster 1 is named as 'vulnerable jobs'. Figure 2 presents the mean factor scores of vulnerable jobs, and 2 results are found. Firstly, among the 4 factor scores, the score of working environment is the lowest ($M= -1.038$). The score of income and labor security are moderate but lower than average levels of the sample ($M= -0.344$, $M= -0.314$). The score of vocational development is the highest among the 4 scores ($M= -0.229$). Secondly, all involved mean factor scores are lower than the average levels. These results suggesting the working conditions of vulnerable jobs are worse on all the 4 aspects of job quality, and jobs in this cluster are characterized by low job quality even in the working poor population.
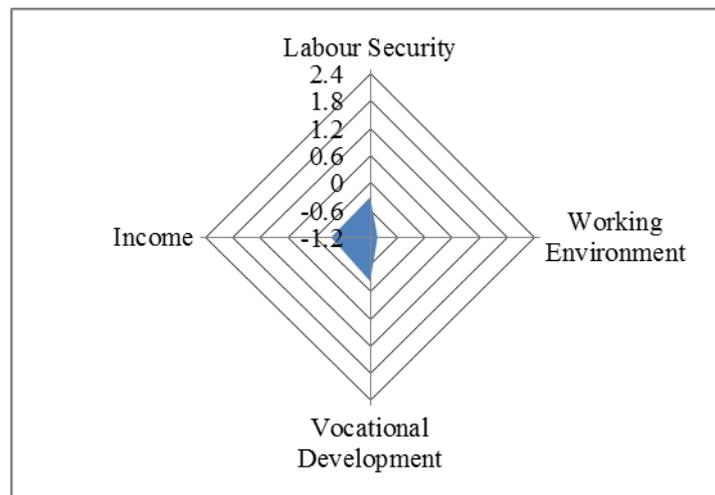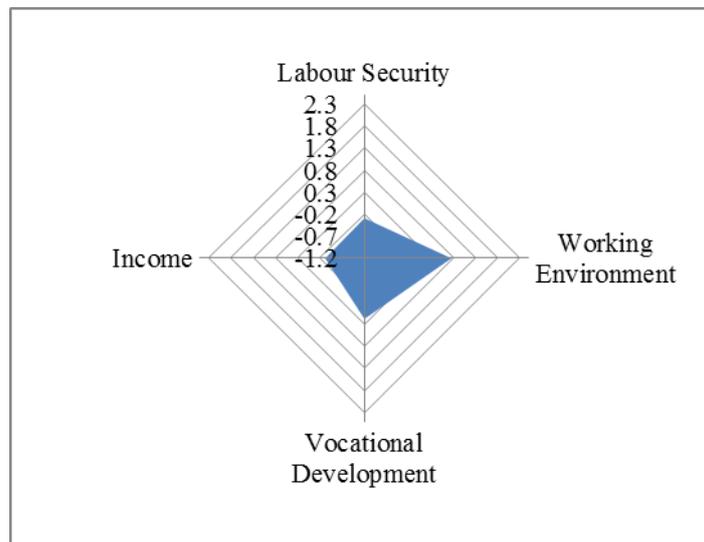

Figure 2. The Job Quality of Vulnerable Jobs

The monthly income of jobs in this cluster is CNY 1580.02 (about USD 242.38), evidently lower than the national monthly income in 2013 (about CNY 2462.3, USD 376.97). A further feature is poor condition of labor security, *e.g*. 92.3% of the jobs without any kind of labor contract, 77.6% without any labor insurance. This result demonstrates that most of the jobs in this cluster are informal employed, and without legal protection. Hence the employees take high risk such low income, work injuries and involuntary demission. Meanwhile, jobs in this cluster are with adverse working environment, *e.g*. 96.3% with environment harmful for health. Furthermore, jobs in this cluster are with little chances for future development, *e.g*. 93.2% without on-job training, 96.3% without any opportunity on promotion in the next 5 years. This result indicates that the jobs in this cluster are with little chances for future development, therefore the poor employment conditions will last for long duration.

In short, vulnerable jobs are with characteristics as low income, poor labor security, adverse working environment and little chances for vocational development, demonstrating that this job type is significantly qualified for our recognition on low quality jobs. Therefore, the employees in this job type are more likely to be exposed in

high risk during working and living every day, and they also in a deepen level of poverty. Vulnerable jobs take 29.9% of the whole sample, implying that nearly one third of the working poor are in a serious survival condition. Casual workers (24.8%), manual workers from small factories (19.7%), workers from small individual workshops (15.7%), and cleaners (13.7%) are all the typical occupations in this job types.

Environmental Advantage Jobs. Cluster 2 is labelled as environmental advantage jobs, and the mean factor scores of this job type is presented in Figure 3. In this cluster, the score of working environment is moderate but significantly higher than the average level of the sample, and also the highest in the 4 clusters (M= 0.758). For this reason, this cluster is labelled as environmental advantage jobs. As for other 3 scores, the score of vocational development is just higher than the average level of the sample (M= 0.173). The score of labor security and income are both lower than the average levels (M= -0.291, M= -0.318).


Figure 3.The Job Quality of Environmental Advantage Jobs

The average monthly income in this group is CNY1870.4 (about USD286.73). It is slightly higher than the average monthly income of vulnerable jobs, but still lower than the national level. Only 43.1% of the jobs in this cluster provide labor contracts, and 54.9% of them have no labor insurance. These results indicate that over half of the jobs are informal and with poor labor security conditions. However, jobs in this cluster are with the relatively better working environment and vocational development conditions. In this cluster, 64.2% of the jobs are with relatively comfortable environment, 70.5% of them have on-job training, and 72.2% of them are with better chances for their future development in the next 5 years. These have to some extent covered the disadvantage of the poor income and labor security conditions.

Based on these results, jobs in environmental advantage cluster are with better quality than that in vulnerable. However, low income and poor labor security condition are 2 main disadvantages in this cluster. These 2 aspects of job quality are much closed to our everyday living, and can have a significant effect on our life quality evidently. Therefore, low income and poor labor security condition greatly lower the job quality in this cluster. Environmental advantage jobs take 44.8% of the whole sample, and the typical occupation in this cluster are salespeople (17.4%), gatekeepers/security guards (16.1%), clerks (12.3%) and manufacturing workers (12.3%).

Insecure Jobs. In this cluster (see Figure 4), the score of income is relatively higher than the average level of the sample (M= 1.481), and also the highest in the 4 clusters, implying that most of the jobs in this cluster are with relatively moderate monthly income.

However, the score of vocational development and working environment are evidently lower than the average levels (*M*= -0.201, *M*= -0.376), and the score of labor security is the lowest in the 4 clusters (*M*= -0.708), suggesting that the jobs in this cluster are with serious problems such as working security, labor insurance and employment stability. For this reason, jobs in this cluster are labelled as insecure.
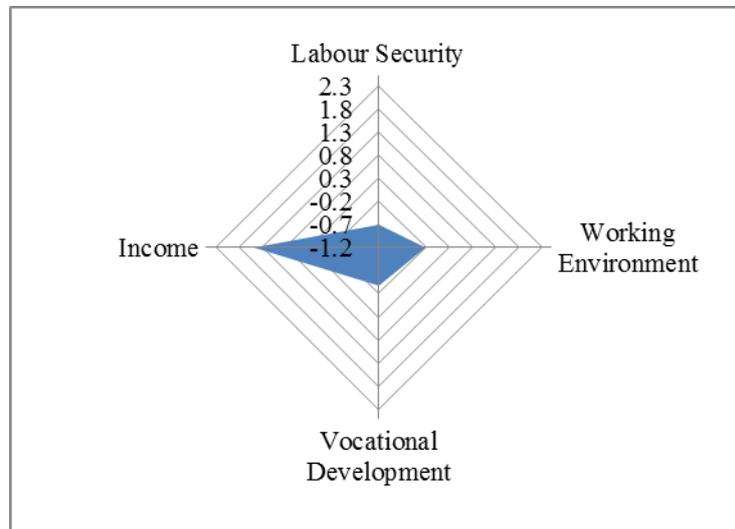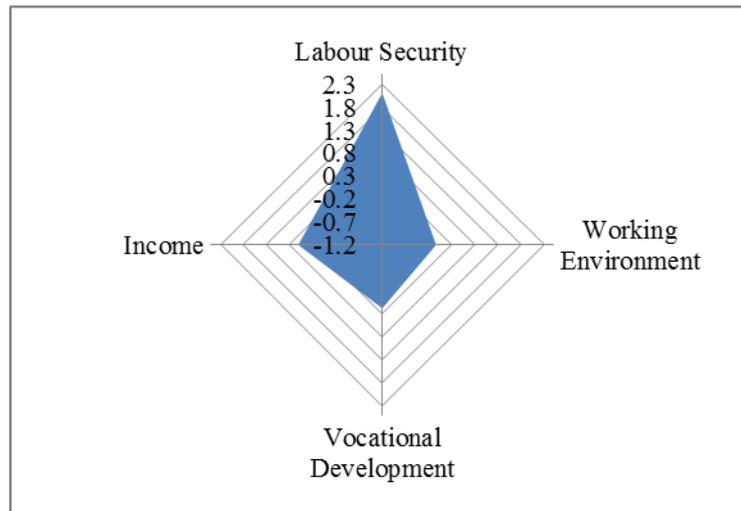

Figure 4. The Job Quality of Insecure Jobs

One of the key attribute to this cluster is the poor labor security condition. For example, 96.3% of the employees are working without any type of labor contract, and 92.7% of them without any labor insurance. This labor security condition is the worst compared with that of the 4 clusters. Another key attribute to insecurity jobs is the high income. The average monthly income in this cluster is the highest in the 4 factor scores (*M*=2999.08, about USD459.46), and also slightly higher than the national average level. Furthermore, the working environment and vocational development in this cluster are moderate but lower than the average of the sample, e.g. 59.6% with adverse working environment, 89.9% without on-job training, 97.2 % without any chances of promotion in the next 5 years.

In summary, insecure job are with the highest income level in the whole sample, which is even slightly higher than the national, but the disadvantage such as poor conditions of labor security, adverse working environment and little chances for vocational development has greatly reduced the advantage brought from income. Insecure jobs take 10.9% of the whole sample, and the typical occupations in this cluster are the self-employed/small retailers (63.3%)

Relatively Saturated Jobs. Cluster 4 is labelled as relatively saturated and mean factor scores of this job type is presented in Figure 5. In this cluster, score of labor security are significantly higher in the 4 factor scores, and the highest in the 4 cluster (*M*= -0.2101). Meanwhile, the scores of income and vocational development are also higher than the average levels of the sample (*M*= 0.618, *M*= 0.179). These results suggest that most job factors in this cluster are high or higher than average. Hence this cluster is labelled as relatively saturated. However, the score of working environment is slightly lower than the average level (*M*=-0.037), indicating that most of the jobs are with relatively worse working environment.

Figure 5.The Job Quality of Relatively Saturated Jobs

Relatively saturated jobs are characterized by better condition of labor security. For instance, 90.0% of the jobs in this cluster have labor contracts, and 95.1% of the jobs in this cluster have labor insurance. Another key attribute is the relatively higher income level, which is similar to that in insecure jobs. In this cluster, the average monthly income is CNY2488.31 (about USD380.96), lower than that in insecure jobs, but slightly higher than the national level. However, the key differences with relatively saturated jobs are relatively better conditions of labor security and vocational development. These 2 advantages have with some extent reduced the risk of working and living of the working poor. The vocational development is moderate but a little higher than the average level, *e.g.* 45.1% with on-job training. The working environment is a slightly lower than the average level, *e.g.* 36.6% with condition harmful to health.

In short, relatively saturated jobs are characterized by relatively higher income, and better labor security. The working environment and vocational development are at the average level of the sample. These results demonstrate that this job type is with some extent to the normal jobs. Therefore, the employees in this job type are in a relatively better living condition, and more likely to get rid of poverty by working. Relatively saturated jobs take 14.2% of the whole sample. Clerks and junior managers from medium and small-sized enterprises (33.8%, 17.6%), and manual workers from state-owned enterprises (26.8%) are the typical occupations in this job types.

5. Conclusions

The results of this study make several important conclusions to the study of jobs types and job quality of the working poor in Northeast of China. The study is the first to develop a taxonomy of job types of the working poor in a Chinese research context based on the five main aspects of job quality. This taxonomy identifies four job types: vulnerable jobs, insecure jobs, environmental advantage jobs, and relatively saturated jobs. Each of the job type presents a special facet of the work and employment-related conditions of the working poor. Therefore, this taxonomy presents the structure of the jobs in this population.

In these 4 job types, vulnerable jobs are characterized by 'atypical jobs' such as low income, informal employment, bad labor insurance, adverse working environment and little chances for future development, and therefore are considered as typical low quality job type, but only take less than one third. The other 3 job types take more than 60% of the sample, but do not present much feature on atypical jobs. In particular, relatively saturated jobs almost approach the national level on income and labor security. These

results suggest that the disadvantages of the working poor are not similar though their job qualities are all lower than the average level. Therefore, the assistant policies on the working poor should base on different job types, so that their disadvantages of jobs can be reduced efficiently.

This study also has some limits. First, this study is an initial attempt to develop a taxonomy of the working poor in the Northeast of China, and most of the indices and measures are based on literature from abroad. The absence of localized concepts and indices limit the results of this study. Second, our respondents are from the northeast part of China, so all the results in this study cannot be applied on a national level. Third, the index system of job quality in this study did not contain psychological indices, and hence the results only reflect the objective employment conditions of the working poor.

Acknowledgements

References

[1]   J. Iceland and J. Kim, "Poverty among Working Families: New Insights from an Improved Poverty Measure", Social Science Quarterly, vol.82, no.2, **(2001)**, pp. 253-267.
[2]   B. Maitre, B. Nolan and CT. Whelan, "Low Pay, In-Work Poverty and Economic Vulnerability: A Comparative Analysis Using EU-SILC", Manchester School, vol.80, no.1, **(2012)**, pp.99-116.
[3]   C. Craypo and D. Cormier, "Job restructuring as a determinant of wage inequality and working-poor households", Journal of Economic Issues, vol.34, no.1, **(2000)**, pp.21-42.
[4]   C.R. Leana, V. Mittal and E.Stiehl, "Organizational Behavior and the Working Poor", Organization Science, vol. 23, no. 3, **(2012)**, pp. 888–906.
[5]   U.S. Bureau of Labor Statistics, "A Profile of the Working Poor, 2012", BLS Report, report No.1047, **(2014)**, pp. 1.
[6]   G. Bodea and E. Herman, "Factors behind working poverty in Romania", Procedia Economics and Finance, vol.15, **(2014)**, pp.711 – 720.
[7]   K. E Omomowo, "The changing nature of work: The creation of a working poor population in post-apartheid South Africa", Development Southern Africa, vol.28, no.5, **(2011)**, pp.613-626.
[8]   T. Cheng, "Financial self-sufficiency or return to welfare? A longitudinal study of mothers among the working poor", the International Journal of Social Welfare, vol.19, **(2010)**, pp162–172.
[9]   P.M. Joassart-Marcelli, "Working poverty in southern california: towards an operational measure", Social Science Research, vol.34, no.1, **(2005)**, pp.20-43.
[10] U.R. Wagle, "Working poverty in Michigan, 1998/1999 and 2007/2008: Changes in the magnitudes and policy and socio-demographic determinants", The Social Science Journal, vol.48, no.1, **(2011)**, pp.193-212.
[11] M. Murakami, "A Statistical Comparative Study of the Working Poor in Japan and Canada", American Journal of Economics and Business Administration, vol.3, no.2, **(2011)**, pp.316-332.
[12] P. Gangopadhyay, S. Shankar and M. Rahman, "Working poverty, social exclusion and destitution: An empirical study", Economic Modelling, vol.37, no.574, **(2014)**, pp. 241-250.
[13] .Wicks-Lim, "The working poor a booming demographic", New labor forum, vol.3, **(2012)**, pp.17-25.
[14] B.Valkenburg and H.Coenen, "Working poor in the Netherlands", Transfer: European Review of Labour and Research, Vvol.6, **(2006)**, pp.612-629.
[15] M. Kim, "Are the working poor lazy?", Challenge, vol.41, no.3, **(1998)**, pp. 85-99.
[16] A.J.Kunnan, "An investigation of a criterion- referenced test using G-theory, and factor and cluster analyses", Language Testing, vol.9, no.1, **(1992)**, pp.30-49.
[17] A.B. Costello and J.W. Osborne, "Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis", Practical Assessment Research and Evaluation, vol.10, no.7, **(2005)**, pp.1-9.
[18] P. Tapanan and C.Virasakdi, "Preparedness against an influenza pandemic of the frontline health facilities in southern Thailand: factor and cluster analyses", Asia-Pacific journal of public health, vol. 24, no.1, **(2012)**, pp.28-38.