



Analysis of Influencing Factors of Flexible Employment of Disabled People Based on Logistic Model

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ABSTRACT

Under the background of gig economy, the disabled can integrate into the society and realize their own value through flexible employment. Based on the questionnaire data of the disabled in China, a Logistic model was constructed for regression analysis, and the influence of social factors, platform factors, family factors and individual factors on the employment choice of the disabled was examined. It is found that age is significantly related to the flexible employment of the disabled, showing an inverted U-shaped relationship, among which family factors and personal factors have great influence on the flexible employment of the disabled.

Keywords: *Odd jobs economy, Flexible employment, The disabled*

1. INTRODUCTION

With the improvement of digitalization, the labor market has undergone profound changes, and the gig economy has emerged as The Times require, providing some new options for flexible employment for the disabled. In academic circles, there is no clear definition of gig economy, which generally refers to that employees serve enterprises in a flexible way. In terms of labor relations, employees can choose enterprises to provide services freely and flexibly from regular workers employed by enterprises. This means that disabled workers can work from online to offline, fixed to flexible, single to diversified, such flexible working mode undoubtedly provides them with more possibilities. Gig economy provides disabled workers with more employment opportunities and greater market demand, but it also transfers risks and costs to disabled workers^[1]. Only by understanding the influence factors of gig economy on flexible employment of the disabled, can we better regulate and manage the gig market and help the disabled out of the employment dilemma.

2. RESEARCH DESIGN

2.1 Theoretical framework

In order to explore the above problems, taking the employment mode selection of the disabled in 8 provinces and cities including Heilongjiang Province as an example, from the perspective of gig economy, the optimization path of flexible employment service system for the disabled was explored. Flexible employment mode has gradually become a personalized and unique form of employment for the disabled. Therefore, the employment background of "gig economy", which has the distinctive characteristics of The Times, is embedded and integrated with the basic employment service system, and a comprehensive employment service system is proposed to provide theoretical reference for improving the basic employment service system and meeting the diversified employment needs of the disabled^[2].

Found by analyzing the domestic and foreign related literature, the influence factors of employment forms are mainly concentrated in two aspects of the subject factor and object factor, and gradually from the select the personal factors to expand employment form, at the same time due to a comprehensive employment service system is to embed the regional characteristic, which is formed by the fusion of basic employment service system Social factors and the platform is closely connected with

employment form choice, it will affect the employment form selection of subject and object two factors refinement, platform for the society, family and individual four aspects, and through literature review and questionnaire survey, summed up the employment form choice related degree larger studies the determinants of 13, among them, the social factors include the provinces and cities and so on; Platform factors include employment; Household influences include income, etc.; Individual factors include gender, etc.

2.2 Data source and variable definition

All provincial disabled persons' federations carry out targeted vocational skills training according to different disability categories, degrees and academic qualifications, and provide employment-related support and assistance to disabled people with different needs. In this study, a random sampling method was used to provide questionnaire links to disabled people who participated in employment training or received employment support nationwide. When the disabled person is unable to fill in the questionnaire, the staff in charge of supporting the disabled person can ask the disabled person and fill in the questionnaire on his/her behalf. In the end, 3870 valid samples were collected by asking questions, covering 8 provinces. Among them, there are 1255 disabled people who use flexible employment (including community and home employment) and 300 disabled people who are unemployed.

2.3 Model selection

There are many statistical analysis methods to deal with qualitative dependent variables in sociology. According to the existing research results, in the field of social science research, when the dependent variables are discrete variables, the categories are three or more, and the relationships among the categories are disordered, the disordered multi-classification Logistic regression model can be used for analysis. Because this paper studies the influencing factors of the employment form choice of the disabled, its changes are caused by various influencing factors, which belong to classified variables, and the choice of employment forms is divided into seven types, namely, proportional employment, centralized employment, individual employment, flexible employment, public welfare employment, auxiliary employment, and farming in rural areas, which meet the application conditions of the disorderly multi-classification Logistic regression model. Therefore, this paper analyzes the influencing factors of employment form selection by using the disorderly multi-classification Logistic regression model, defining it as Y=1, Y=2, Y=3, Y=4, Y=5, Y=6, Y=7, Y=8 for Proportional employment, centralized employment, flexible employment, public welfare post employment, auxiliary employment, rural

breeding and no employment, respectively. The specific form of the model is:

$$\ln \frac{P(Y=2)}{P(Y=1)} = \alpha_1 + \sum_{K=1}^K \beta_{1k} x_k + \varepsilon \tag{1}$$

$$\ln \frac{P(Y=3)}{P(Y=1)} = \alpha_2 + \sum_{K=1}^K \beta_{2k} x_k + \varepsilon \tag{2}$$

$$\ln \frac{P(Y=4)}{P(Y=1)} = \alpha_3 + \sum_{K=1}^K \beta_{3k} x_k + \varepsilon \tag{3}$$

$$\ln \frac{P(Y=5)}{P(Y=1)} = \alpha_4 + \sum_{K=1}^K \beta_{4k} x_k + \varepsilon \tag{4}$$

$$\ln \frac{P(Y=6)}{P(Y=1)} = \alpha_5 + \sum_{K=1}^K \beta_{5k} x_k + \varepsilon \tag{5}$$

$$\ln \frac{P(Y=7)}{P(Y=1)} = \alpha_6 + \sum_{K=1}^K \beta_{6k} x_k + \varepsilon \tag{6}$$

$$\ln \frac{P(Y=8)}{P(Y=1)} = \alpha_7 + \sum_{K=1}^K \beta_{7k} x_k + \varepsilon \tag{7}$$

Among them, P is the probability of disabled people choosing a certain employment form, α_n is a constant term, β_{nk} is the regression coefficient of the k-th influencing factor, x_k is the main factor affecting disabled people's employment form choice, ε is a random error term, And according to the proportion of employment (Y1), concentrated employment (Y2), individual employment (Y3), flexible employment (Y4), public welfare post employment (Y5), auxiliary employment (Y6), farming in rural areas (Y7) and no employment (Y8), the probability of being selected must satisfy $P(Y1) + P(Y2) + P(Y3) + P(Y4) + P(Y5) + P(Y6) + P(Y7) + P(Y8) = 1$.

3. EMPIRICAL ANALYSIS

According to the variables selected in this study, the missing values were removed, and finally 3870 valid samples were obtained. Based on this, a Logistic regression model is established, and it is verified that the overall effect of the regression model is good, and the established model has statistical significance. Using SPSS software, the Logistic regression model of influencing factors of employment of the disabled is established. The specific results are shown in Table 1. The Logistic regression analysis results of selected indicators are shown in Table 1:

Table 1: Logistic regression results of influencing factors of flexible employment of disabled people

Explanatory variable	S.E.	P	Exp(B)
Province 1(Heilongjiang)			
Province 2(Jilin)	0.249	0.071	1.566
Province 3(Gansu)	0.241	0.223	0.746

Province 4(Hubei)	0.263	0.004	2.148	Residence 2(Non-agricultural)	0.165	0.000	0.130
Province 5(Anhui)	0.298	0.000	4.229	Age 1(0 to 14 years old)	0.348	0.000	0.001
Province 6(Jiangsu)	0.440	0.088	2.119	Age 2(15 to 59 years old)			
Province 7(Fujian)	0.328	0.022	2.114	Age 3(More than 60 years of age)	0.170	0.000	0.089
Province 8(Zhejiang)	0.355	0.000	4.380	Level 1(Very severely)			
Discrimination 1(Yes)				Level 2(Severe)	0.757	0.001	11.352
Discrimination 2(No)	0.157	0.042	1.377	Level 3(Moderate)	0.730	0.000	15.052
Barrier-free 1(Satisfaction)				Level 4(Mild)	0.764	0.000	306.268
Barrier-free 2(Ordinary)	0.213	0.039	0.644	Type 1(Vision disability)			
Barrier-free 3(Dissatisfaction)	0.176	0.000	0.277	Type 2(Hearing disability)	0.538	0.000	0.047
Situation 1(Proportional)				Type 3(Speech disability)	0.914	0.000	0.018
Situation 2(Centralized)	0.872	0.002	0.067	Type 4(Physical disability)	0.524	0.000	0.013
Situation 3(Individual)	0.379	0.000	0.203	Type 5((Intellectual disability)	0.634	0.000	0.002
Situation 4(Flexible)	0.299	0.000	0.167	Type 6(Mental disability)	0.673	0.000	0.008
Situation 5(Public welfare post)	0.487	0.000	0.119	Type 7(Multiple Disabilities)	1.006	0.000	0.000
Situation 6(Auxiliary)	0.814	0.875	1.136	Constant	1.095	0.000	83.870
Situation 7(rural farming)	0.304	0.000	0.103				
Employment Situation 8(no employment)	0.382	0.000	0.070				
Skills training 1(Satisfaction)							
Skills training 2(Ordinary)	0.283	0.007	0.464				
Skills training 3(Dissatisfaction)	0.183	0.016	0.298				
Income 1(In 1860 and the following)							
Income 2(1860-5000)	0.297	0.000	0.175				
Income 3(5000-10000)	0.327	0.000	0.070				
Income 4(10000 or more)	0.386	0.000	0.041				
Marriage 1(Unmarried)							
Marriage 2(Married)	0.324	0.000	12.367				
Marriage 3(Divorce)	0.398	0.000	85.414				
Attitude 1(Support)							
Attitude 2(Nonsupport)	0.175	0.000	0.458				
Gender 1(Men)							
Gender 2(Women)	0.162	0.000	0.296				
Education 1(Under the high school)							
Education 2(High school)	0.283	0.038	1.799				
Education 3(Specialized subject)	0.311	0.000	6.159				
Education 4(Undergraduate course)	0.350	0.000	30.277				
Education 5(Postgraduate and above)	0.463	0.000	143.924				
Residence 1(Agricultural)							

3.1 Analysis of influencing factors of social dimension

The social dimension variables such as the province and city where you live, whether you are discriminated against or not, and the satisfaction degree of barrier-free infrastructure have a significant impact on the employment of disabled people, but the province and city where you live (Gansu Province) has no significant impact on the employment of disabled people. The more economically developed the provinces and cities where they live, the more employment opportunities the disabled will have. Compared with Heilongjiang Province, the employment probability of Jilin Province, Gansu Province, Hubei Province, Anhui Province, Jiangsu Province, Fujian Province and Zhejiang Province is 1.566, 0.746, 2.148, 4.229, 2.119, 2.114 and 4.38 times respectively. Compared with discrimination, the employment probability of non-discrimination is 1.377 times that of discrimination. Therefore, people with disabilities who are not discriminated against will promote their employment. Compared with "satisfactory", the employment probability of "average" and "unsatisfactory" is 0.644 and 0.277 times respectively. Barrier-free infrastructure is related to the employment environment of disabled people, which can make them travel smoothly for the last mile.

3.2 Factors influencing the platform dimension

Platform variables such as employment form and satisfaction degree of skills training have a significant

impact on the employment of the disabled, but the auxiliary employment has no significant impact on the employment of the disabled [3]. Compared with proportional employment, the employment probabilities of centralized employment, individual employment, flexible employment, public welfare employment, auxiliary employment, farming in rural areas, and no employment are 0.067, 0.203, 0.167, 0.119, 1.136, 0.103, and 0.07 times, respectively, which indicates that flexible employment is becoming the first choice for the disabled in the era of odd jobs economy. The disabled's attitude towards skills training is "average" or "unsatisfactory", which is 0.464 and 0.298 times of the possibility of "satisfactory" employment respectively.

3.3 Factors influencing the family dimension

Family dimension variables such as income, marital status, family's attitude towards the employment of the disabled have significant effects on the employment of the disabled. Compared with the disabled's income of "1860 and below", the employment probability of "1860-5000", "5000-10000" and "10000 and above" is 0.175, 0.07 and 0.041 times, respectively, which indicates that the disabled with lower income have stronger desire for employment, and the daily living expenses, children's education expenses and other expenses make it difficult for them. Unmarried people will reduce the possibility of employment, which is 12.367 times that of married people, while the employment probability of divorce is 85.414 times that of unmarried people. Marriage will make disabled people have a more positive attitude towards flexible employment, so marriage is conducive to disabled groups joining the employment force. The employment probability of family members who don't support the employment of disabled people is 0.458 times that of those who support it.

3.4 Factors influencing personal dimension

Gender, educational background, household registration, age, disability level, disability type and other personal dimensional variables of the disabled have significant effects on the employment of the disabled. The employment probability of women is 0.296 times that of men, that is, women are less likely to be employed than men [4]; Social women are more tolerant and do not have to bear the cost of family life, so there is less demand for employment. Compared with the disabled below secondary school, the disabled with secondary school, junior college, undergraduate, postgraduate degree and above all increase their employment possibilities, and the higher their education level, the greater their employment possibilities. The employment possibilities of the disabled with secondary school, junior college, undergraduate degree and postgraduate degree and above are 1.799, 6.159 and 30 respectively. Compared with agricultural registered permanent residence, the

employment probability of non-agricultural registered permanent residence is 0.13 times that of agricultural registered permanent residence. Most non-disabled people in agricultural registered permanent residence live in cities and towns, probably because they have better social security. Although they have a wide range of employment opportunities, their desire for employment is relatively weak. The employment possibility of disabled people aged 0-14 and over 60 is 0.001 and 0.089 times that of those aged 15-59, respectively, and the influence of age on employment presents an inverted U-shaped feature. The level and type of disability have a significant impact on employment. The employment probability of the disabled with severe, moderate and mild disabilities is 11.352, 15.052 and 306.268 times that of the disabled with extremely severe disabilities, respectively, indicating that the more severe the disability, the lower the employment probability. Compared with visual disability, the employment probabilities of hearing disability, speech disability, physical disability, intellectual disability, mental disability and multiple disabilities are 0.047, 0.018, 0.013, 0.002 and 0.008 respectively, which is close to 0 times. It can be seen that multiple disabilities are the most difficult to find employment, and the employment rates of visual disability, hearing disability, speech disability and physical disability are all higher than those of intellectual disability and mental disability [5].

4. CONCLUSION

In this paper, a questionnaire survey was conducted among the disabled in various provinces, and a Logistic regression model was established. The research found that the economic development, satisfaction with barrier-free infrastructure, satisfaction with skills training, and the attitude of family members towards the employment of disabled people in the provinces and cities where they live are all positively influencing the flexible employment of disabled people. This has also made a certain contribution to the existing research on the flexible employment of the disabled. Relatively speaking, disability level, educational background and marital status have great influence on the employment of the disabled. In addition, age has an inverted U-shaped curve on the flexible employment of the disabled, and the employment rate of the elderly and children is not as high as that of young and middle-aged workers. To this end, it is especially necessary to strengthen rehabilitation, education and poverty alleviation for the disabled. The development of modern medical level can improve the rehabilitation level of the disabled, thus increasing the employment rate of the disabled.

Through the above analysis we can see that with the rapid development of China's economy, people with disabilities become a group should not be ignored, as an important part of socialism with Chinese characteristics,

the disabled people become extensive and complex in structure, employment for disabled persons not only relates to themselves and to their family's quality of life, may also affect the social stability, The study and analysis of the factors affecting the flexible employment of the disabled have important reference significance for the development of the disabled cause in China, and also help the society to pay more attention to them.

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