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Leisure Internet Use and Female Wage Earnings—An Empirical Analysis Based on CGSS2021 Data

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Abstract: In the era of "Internet Plus", the Internet has been integrated into all aspects of the lives of members of the society, which has a new impact on increasing women's wages and reducing the gender pay gap. This paper is based on the data of CGSS2021 to explore the impact of Internet use on increasing the wage income of female labour groups. Firstly, by introducing the variables of "using the Internet as the main information channel" and "frequency of Internet use", it is found that both of them have a significant positive impact on women's wage income. Secondly, this paper introduces the variable of women's leisure Internet use and divides it into three dimensions, namely, social, study and entertainment, and creates interaction terms for heterogeneity analysis. It is found that leisure Internet use for study and social purposes significantly increases women's wage income.

1. Introduction

Wage income is the source of most women's livelihood, and the amount of income determines women's quality of life and affects the level of development of society as a whole. As China's society steps into the new stage of "Internet+", the new Internet industry is expected to become a new driving force for China's economic growth and women's income improvement. In order to encourage the construction of Internet infrastructure, the government put forward a series of policy measures, such as the strategy of a strong network country and the "Internet+" action plan. Action Plan and a series of policy measures, based on data from the China General Social Survey (CGSS), this paper examines the effect of Internet use on women's income, an issue that can not only plan better career paths for female workers and further examine the power sources that promote economic development, but also provide implications for future policy enactments on labour and employment as well as Internet use.

2. Literature Review and Research Hypotheses

2.1. The impact of the Internet on women's income

In recent years, the rapid development and social penetration of the Internet, artificial intelligence, big data and other new-generation information technologies have profoundly changed China's

employment market. In the process of rapid development of high-tech information technology, the basic disk of China's labour market will remain basically stable under the inhibition and substitution effects, but under the role of structural shocks, the employment market will show a bipolar development trend, and intermediate positions are more likely to be to be replaced[1]. In the process of continuously overturning our perception of traditional employment, the incorporation of the Internet into our lives will bring a huge information dividend to its users and trigger changes in the structure of the labour market.[2] In terms of the gender wage gap, the use of the Internet expands the way of obtaining information in the labour market, and for labour groups that frequently use the Internet, their costs will be greatly reduced, whether they are employed or engaged, and at the same time, compared with women who do not have access to the Internet, Internet users will get higher market demand, [3]so that they can increase their employment opportunities in the labour market. Secondly, the "skill premium" phenomenon in the context of the Internet economy has a more significant effect on the wage income of workers who have more frequent contact with the Internet and know more about it. [4]In terms of the human capital accumulation effect, frequent use of the Internet and other modern digital technologies to learn new knowledge and master new skills can enable workers to continue to accumulate their own human capital, and in this process, the knowledge learning effect can further improve the quality of employment and increase the comparative advantage of employment.[5] However, for workers who are not exposed to the Internet or use it less frequently, they may choose to reduce their human capital investment due to the inability to achieve their expected wage income, which ultimately leads to a lack of competitiveness in the labour market.[6] Ragnedda&Ruiu refer to Bourdieu's capital theoretical framework, and put forward a form of capital alongside social capital, cultural capital and economic capital Ragnedda & Ruiu refer to Bourdieu's theoretical framework and put forward a form of capital alongside social capital, cultural capital and economic capital--digital capital, which is defined as "the tendency to use the Internet and the ability to use the Internet, internalised in the individual" and "the Internet access resources, externalised in the individual". And "the resources of Internet access that are externalised to individuals". Similar to other types of capital defined by Bourdieu, such as social capital and cultural capital, digital capital can be accumulated and transformed into other types of capital over time. Moreover, digital capital is regarded as a kind of "bridge capital", connecting the online and offline domains. If more and better structured digital capital is acquired, individuals can transform it into offline economic capital or social capital, thus gaining advantages in offline life opportunities. [7]

Most of the existing literature on this issue focuses on the theoretical level, with fewer studies exploring the mechanism, process and extent of impact through empirical analyses, and insufficient attention has been paid to the different impacts of women's leisure time Internet use and the different ways of using the Internet on women's income. This study uses data from CGSS2021 to examine the impact of Internet use and whether it is used as the main information collection channel on women's income, and to differentiate leisure Internet use in order to examine more precisely the impact of leisure Internet use on wage income.

2.2. Research hypotheses

2.2.1. Social network theory analysis

The Internet is an important channel for social members to accumulate weak relationships and maintain strong relationships , [8]through the accumulation of these social capital, social members will have a significant improvement in both employment options when looking for a job and the quality of employment in the workplace, the social network theory views the network composed of a series of social relationships and ties of actors as a whole, and believes that the quantity and quality of social relationships determine the individual's possession of the quantity and quality of social

resources, and that the use of the Internet can expand a worker's social network to include both virtual and real social relationships. Social network theory covers many theoretical perspectives, and this study mainly applies the embedding theory.

Based on the above analysis, the following research hypotheses are proposed:

Hypothesis 1: Based on the social network theory, compared with no exposure to the Internet, using the Internet can significantly enhance female users' work income.

Hypothesis 2: Based on social network theory, using the Internet as the main information collection channel can significantly and positively increase the wage income of female users.

3. Data Sources and Description of Variables

3.1. Data sources

The data for this study are from the China General Social Survey (CGSS) 2021 dataset, which is national, comprehensive, and continuous, and can systematically reflect the current situation of Chinese society. CGSS2021 consists of two parts, the core module and the theme module, and includes a total of 8,148 valid samples. In the actual operation, "whether or not they worked for more than one hour in the previous week to obtain income or had seasonal breaks" is used as an identifying variable in the data used to determine whether or not the labour force has really entered the labour market, and the data of formal and informal employment are fully considered. [9]Taking the flexibility of formal and informal employment into full consideration, female workers with formal jobs were selected as the main target object of the study, and after excluding invalid data of related variables, a total of 1,334 valid samples were included.[10]

4. Analysis of regression results

Table 1: Regression model of the impact of Internet use on the logarithm of wage income

	Model 1 Logarithm of total income	Model 2 Logarithm of total income	Model 3 Logarithm of total income	Model 4 Logarithm of total income
Internet Use	1.338***	0.395***		
	(0.074)	(0.078)		
Internet as the main information channel			1.295***	0.321***
Constant	9.198***	7.102***	9.187***	7.201***
	(0.065)	(0.521)	(0.007)	(0.395)
N	1334	1334	1334	1334
R2	0.199	0.441	0.182	0.431
adj. R2	0.199	0.436	0.182	0.426

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

Since the dependent variable, i.e. total annual income, is a continuous variable in this study, the least squares regression model OLS was chosen for its interpretation, and in order to facilitate the analysis of the effect of the independent variables on the dependent variable, the regression coefficients of the variables as well as the corresponding standard errors are reported in the table. The regression results are represented in Table 1. Model 1 is the model of the effect of Internet use on women's income without adding control variables, and the results indicate that the two show a significant positive correlation (r=1.338, p<0.001), i.e., compared to not using the Internet, the wage

income of those who use the Internet is higher than that of theirs by 1.338 units. Model 2 is the full-sample model after adding the control variables, and it can be seen that after adding the control variables, Internet use still has a positive and significant effect on the income of female labourers ($r=0.395$, $p<0.001$), i.e., compared to non-users, the wage income of Internet users can be raised by 0.395 units. In terms of the control variables, in terms of age, both the age variable and the square variable of age are highly significant at the 0.01 level, and the effect of age on wage income shows an "inverted U" shape, i.e., as the age of the labourer grows, his wage will first increase and then decrease. In terms of education level, as the education level rises, the total annual income also rises sequentially. In terms of health status, the healthier the higher the income, the result is significant, compared with rural households, urban households will earn 19.9% more, urban workers have a higher income level, urban and rural income gap is still large. In terms of marriage, being married provides higher income security than being unmarried. Combining the results of Model 1 and Model 2, it can be seen that Hypothesis 1 has been verified. Models 3 and 4 are univariate and omnivariate models of whether or not to use the Internet as a primary information channel and wage income, respectively. The results of model 3 show that using the Internet as the main information collection channel has a positive and significant effect on wage income ($r=1.295$, $p<0.001$), and after adding other control variables in model 4, the results are still significant, and the results of each control variable are similar to the results of model 2 in terms of the degree of impact and significance, so there is no further explanation, and the results of the combined models 3 and 4 indicate that using the Internet as the main information collection channel has a positive and significant effect on wage income ($r=1.295$, $p<0.001$). The results of Model 3 and Model 4 show that using the Internet as the main information channel will have a positive impact on wage income, and Hypothesis 2 is confirmed.

5. Research Conclusion and Countermeasure Suggestion

This paper firstly reviews the relevant literature on the impact of the Internet on women's wage income, based on which, using CGSS2021 data, it analyses the impact of Internet use on their wage income using OLS regression methods, and conducts heterogeneity analyses to explore the specific ways in which different leisure Internet use affects the explanatory variables. The results show that: firstly, Internet use can significantly increase female workers' wage income; secondly, using the Internet as the main information collection channel can significantly increase their wage income; thirdly, the impact of leisure Internet use on individual's wage income is realised through individual's leisure learning activities as well as social activities.

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