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## **Influencing Factors of Chinese Elderly's Unpaid**

### **Working Time And Its Gender Difference**

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#### **Abstract:**

*Unpaid working time refers to the time that residents spend on work under non-working hours for no purpose of labor remuneration. It reflects the residents' quality of life and social equity to a certain extent. In China, residents' participation in unpaid labor is irreplaceable because China's insufficient social service system. There are still problems such as insufficient supply, poor quality and high price. The 19th National Congress of the Communist Party of China pointed out that the society should "constantly meet the people's growing needs for a better life", and strengthening the construction of social service system and reducing the residents' unpaid working hours are important ways to meet the people's growing needs for a better life and improve people's living standards. Therefore, it is of great practical significance to study the unpaid working hours of Chinese residents. Among them, the old people's participation in unpaid labor time is a problem worthy of attention. The imbalance of the distribution of unpaid labor time in the family is easy to cause unfair problems in the family. Especially in the case of double worker families, many family labors is transferred to the retired old people, which is not conducive to improving the happiness of the elderly. Based on the data of the 2015 China Comprehensive Social Survey (CGSS) and the 2008 national time use survey, this paper uses descriptive statistics and multivariate regression analysis to find that the elderly work longer without pay, especially the elderly women. The length of time for the elderly to participate in unpaid labor in China is mainly affected by gender, gender equality concept and region.*

**Key words: unpaid working time; quality of life; Multivariate regression; well-being; the elderly**

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**I. Introduction:** Time economy is a new economic form after natural economy and commodity economy. According to Marx the saving of time and the planned distribution of labor time among different production departments are still the primary economic laws on the basis of joint production. This has become a even higher regulation. However, this is essentially different from the exchange value (labor or labor product) measured by labor time.<sup>①</sup>The essence of the time economy lies in the workers' distribution of labor time on their will, so as to save his own labor time to obtain the satisfaction of material to the maximum extent. There is a social relationship in the exchanged social relations that conforms to each other's will. Time is a tool to measure this social relationship

Unpaid labor within the family is important for the reproduction of labor force.As early as 20th century, the U.S. government has used a survey of residents' time use to measure their living conditions. With the deepening of research, scholars widely believe that the tightness of living time outside work reflects the quality of life and social equity. The unpaid working hours of residents are affected by many factors which are closely related to the life quality and happiness of residents, that is why it mainly serve as a reflection of people's quality of life and social equity. For this purpose, the United Nations Organization for Economic Cooperation and Development (Organisation for Economic Co-operation and Development, OECD) adds unpaid working hours to leisure and personal care hours to reflect the standard of living of the population.

Unpaid work consists of two parts, one is domestic work including cleaning, laundry, cooking and the other is family emotional work such as child care.<sup>②</sup>As for the connotation of unpaid working hours, the China general social survey (CGSS) conducted by Renmin University of China has made a more authoritative explanation:the service activities of individuals in the family or society without direct monetary return to meet the final consumption demand within the prescribed time of non-work .<sup>③</sup>According to the research group of the Chinese Academy of Social Sciences ,*Leisure Green Book :2017~2018 China Leisure Development report* defines unpaid work as service work performed by individuals during non-working hours . In the domestic related research papers, the unpaid working time of the residents is defined as the service activity time which does not take the labor reward as the purpose in the non-working time of the residents.<sup>④</sup>

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<sup>①</sup>Complete works of Marx and Engels, vol .46, p .120.

<sup>②</sup>Qing Shi Song, Tian Anita. Whether family work reduces wage income —— based on CHNS evidence World Economic Bulletin ,2015(04):77-92.

<sup>③</sup> [http : //cgss .ruc .edu .c n](http://cgss.ruc.edu.cn)

Institute of Financial and Economic Strategy of the Chinese Academy of Social Sciences and Tourism Research Center of the Chinese Academy of Social Sciences. *Leisure Green Book :2017~2018 Chinese Leisure Development Exhibition [M].* Report Beijing. Publication of social science literature .2018

<sup>④</sup>Institute of Financial and Economic Strategy of the Chinese Academy of Social Sciences and Tourism Research Center of the Chinese Academy of Social Sciences. *Leisure Green Book :2017~2018 Chinese Leisure Development*

In the study of time allocation, the elderly group is an important research object. The elderly group has no pressure of work and study, and its living time allocation has its own characteristics. From the living time allocation of the elderly, we can understand the living conditions of the elderly. According to a series of reports on the distribution of living time among Beijing residents, the elderly have a longer period of housework, nearly an hour more than the average. Similar conclusions can be drawn in general in other provinces across the country. Previous studies have found that family income, education level, sex, professional status, family support composition, age composition have a greater impact on unpaid labor participation time. The special character of the elderly is that their "non-working" lifestyle makes them more likely to dominate time. Whether the influencing factors we think in the past also have the same influence on the elderly is worth analyzing.

## **II. Materials and Method**

### **Data resources**

This paper uses the data of China General Social Survey (CGSS) in 2015. Though CGSS 2018 has released in 2020 the annual data of CGSS 2015 is still the latest survey data released which contains the data of residents' daily time use. CGSS began in 2003. It is a comprehensive and continuous academic survey project in China. The data sample size is large, the coverage is wide, and the data obtained are reliable. The survey covers 10968 residents in 125 districts (counties) of 28 provinces (autonomous regions and municipalities directly under the central government) (except Tibet, Xinjiang, Hainan, Hong Kong, Macao and Taiwan). The survey contents include the basic information of the interviewees and their parents, educational career experience and growth information, etc.

In description section, this paper analysis the unpaid work time in each age group. For multiple regression section we take the elderly's household labor time as dependent variable, gender equality attitude, gender, region, marital status, registered residence type, education years, family income, family population age, physiological and mental health status as independent variable. The explanations of each variable are shown in the next section.

### **Data selection and processing**

In this study the elderly are refer to the individuals aged 50 and above. 673 effective cases were obtained.

1. Unpaid work hours: During the working day, how much time do you spend doing housework per day, how much time do you spend doing housework per day, how much time do you spend doing housework per day on weekends, How much time do you spend doing housework per day on weekends, How much time do you spend doing housework per day-minute On weekends, this paper uses minutes as a statistical unit, first calculating the daily housework time of the interviewees on working days and weekends, thus calculating

the average daily housework time calculation formula as follows: 
$$\text{evetime} = (\text{weektime} \times 5 + \text{weekendtime} \times 2) / 7$$

If the working day data or weekend data is missing, replace it with the existing data.

2. Gender: The difference in the level of unpaid working hours caused by different gender reflects the social problems in our country, such as equality between men and women, social equity and so on. In our country, there has always been a tradition of "female master, male master outside ", so women often engage in unpaid labor time more than men. Because the free labor time will occupy the residents' leisure time, the female family and social status will decline, the fatigue feeling will rise, which will lead to the negative social effect of the residents' happiness decline.

3. Region: Under the influence of economic level and cultural level, the heavy degree of domestic work in different regions is obviously different. It is generally believed that residents in areas with relatively backward economic development tend to participate in domestic work. Based on the interview location in the CGSS2015 and the classification of the National Bureau of Statistics, this paper divides the interviewees into three categories: east, middle and west. The eastern regions are Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Hainan; the central region is Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, Hunan; the western region is Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang.

4. Marital status: Marital status has a particularly significant impact on women's domestic work time, CGSS2015 the description of marital status includes unmarried, cohabitation, first marriage with a spouse, remarried spouse, separation without divorce, divorce, widowed total of 7 categories. This paper classifies unmarried, separated, divorced, widowed as no spouse, cohabitation, first marriage, remarried spouse as a spouse.

5. Years of education: The concept of unpaid work may vary among residents of different educational levels. Generally speaking, no good Educated residents will do more unpaid work, and better educated residents may try to reduce themselves

Unpaid working hours. An existing question in the CGSS2015 database ,your current highest level of education, The questiona are as follows :No education, private schools and literacy classes, primary schools, junior high schools, vocational high schools, general high schools, secondary schools, technical schools, college (adult higher education), college (formal higher education), undergraduate (adult higher education), undergraduate (formal higher education), graduate students and above, other "a total of 14 options. To reflect the relationship between degrees, This paper will change the educational level according to the minimum number of years required to complete the corresponding academic qualifications.

The results are shown in Table 1.

**Table 1 Conversion of Education Years**

Education Background	No Education	Private School /Literacy Class	Primary School	Junior High School	Vocational High School / Technical School	Senior High School / Secondary High School	College (Adult Higher Education) /Ordinary Higher Education)	Undergraduate (Adult Higher or Above Education) /Ordinary Higher Education)	Graduate
Education Year	0	3	6	9	11	12	15	16	19

6. Gender attitudes: Gender attitudes reflect residents' awareness and recognition of gender equality."Do you agree - men are career-oriented, women are family-oriented" Do you agree - men are inherently better than women "Do you agree - you do better than marriage" Do you agree - women should be fired first in times of recession "Do you agree - couples should share the housework equally "5 questions constitute a set of gender cognitive problems, the score reflects the gender attitude of the individual.

7. Family Population: The number of families may have an important impact on the unpaid working hours of the residents, which to some extent reflects the family structure. In general, the larger the number of families, the more housework within the family. The traditional idea is that the elderly residents are the object of care, but the elderly residents with high health level also bear more unpaid labor. Here we use CGSS2015" how many people (including yourself) your family is currently living together "to reflect the family size.

8. Health status: CGSS2015 asked "how often you feel about your current state of health" and "how often you feel depressed or depressed over the past four weeks ". These two questions represent the physical and mental health of the interviewees.

Because there are many indexes, this paper carries on the principal factor analysis to some similar indexes to reduce the dimension.

Because there are many independent variables we first do a factor analysis and divide them into five factors. The factor analysis result is shown in table 2.

**Table 2 Composition matrix after rotation**

	1	2	3	4	5
Annual individual income	0.016	-0.082	0.815	0.024	0.155
Physical health	0.024	0.831	0.013	-0.066	0.05
Mental health	-0.11	0.827	0.074	0.037	0.034
Years of education	-0.218	0.197	0.67	-0.087	-0.11
Number of family members	-0.009	-0.121	-0.148	0.84	0.142
Annual family income	0.013	0.125	0.094	0.063	0.887
Do you agree men are career oriented and women are family oriented	0.761	0.071	-0.181	-0.01	-0.055
Do you agree men are born better than women	0.773	0.038	-0.07	0.159	-0.021
Do you agree woman is better marry a good man than do well in work	0.735	-0.069	-0.016	0.04	0.008
Do you agree women should be fired first in recession	0.621	-0.171	0.042	-0.201	0.079
Do you agree men and women should share the housework	0.052	0.22	0.283	0.533	-0.413

### **III. Differences in the Distribution of Unpaid Working Hours among Different Age Groups**

According to the 2008 survey of Chinese residents' time use, with the increase of age, the time of participation in unpaid labor between men and women shows an increasing trend, but the range of gender growth is different, and the participation of women in unpaid labor time with age is greater than that of men. By linear fitting, the slope of unremunerated labor time and age fitting for women was 31.229, while that for men was 19.171. As shown in Table 3-1.

The time difference between male and female sexual participation in unpaid work between the ages of 15-24 and 25-34 is the most significant, The difference between the ages of 15-24 and 25-34 is 69 minutes, The increase is 80 minutes. This increase is reasonably explained by the fact that women are responsible for the extra unpaid work of marriage for the family.

After a significant increase in the time difference between men and women between 25 and 34 years of age for sexual participation in unpaid work, it remained essentially constant between 35 and 44 years of age, further expanded between 45 and 54 years of age and between 55 and 64 years of age, with a maximum difference of 169 minutes between men and women between 55 and 64 years of age. The period 45-64 shows the individual's life in retirement or imminent retirement. Although men's participation in unpaid working hours has increased significantly during this period, Especially after the age of 55, up 34 minutes from the age of 55, But the increase in women's unpaid working hours is much earlier, More, In the 45-54 age group, Women's unpaid work hours increased by 25 minutes from the age of 45, The period from 45 to 54 years of age increased by 49 minutes. The gap between men's and women's participation in unpaid working hours has decreased by age 65-74, This is due both to the increase in unpaid working hours for men and to the decline in unpaid working hours for women. Changes in this age group may be due to differences in sexual strength between men and women, Women in the 65-74 age group may not be physically supportive of their long periods of unpaid work, So men of this age share part of unpaid work, But in the 65-74 age group, Women still work 128 minutes longer than men. This shows that older women in the family take on more unpaid work than younger women, Such work may come from the responsibility to raise children, It may also include care for families with children.

It is not difficult to see that the elderly spend more time on housework than other age groups. On the one hand, this may be due to the general retirement of the elderly group, with more leisure time; on the other hand, it may take more time to engage in the same domestic work because of the physical and functional disadvantages of the elderly. Next, this paper analyzes which factors affect the housework time of the elderly through multivariate regression.

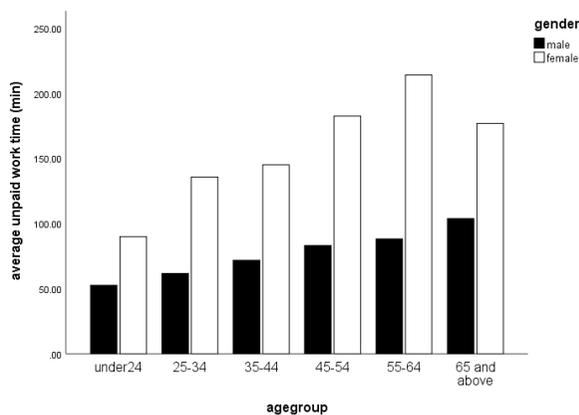


Figure1 Average unpaid work time in different agegroup

#### **IV. Analysis of the Impact**

Factors affecting unpaid working hours of the elderly

After standardizing the variables, the OLS regression is carried out. According to the multivariate regression of the influencing factors of the unpaid labor time of the elderly, the gender factor, the regional factor and the factor X1、X3、X4、X5 all have a significant influence on the unpaid labor time of the elderly.

In terms of gender, older women spend slightly more time in domestic work than older men. In terms of the region, the elderly in the central and eastern regions have longer unpaid working hours than in the western regions. This may be because the central and eastern regions have more and more elaborate types of housework than the western regions. For example, in the case of child-rearing, care for children in the eastern region may be limited to diet, while in the central and eastern regions it may also be necessary to transport and educate children. In families where young parents are generally dual workers, the elderly are generally responsible for the care of their grandchildren. The influence of marriage on the unpaid working time of the elderly is not significant, and the existence of a spouse does not affect the unpaid working time of the elderly.

The biggest indicator of X1 contribution is "do you agree - men are career-oriented, women are family-oriented" "do you agree - men are inherently better than women" "do you agree - do better than marriage" "do you agree - women should be fired first in times of economic downturn" X1 have a significant positive impact on unpaid working hours for older people. This shows that the individual's consciousness of gender equality will affect the unpaid labor time. The lower the awareness of gender equality, the longer the unpaid labor time; conversely, the higher the awareness of equality, the shorter the unpaid labor time.

A major contributor to X2 is physical and mental health. X2 effect on the unpaid working hours of the elderly does not significantly indicate that the health status has no significant effect on the length of the unpaid working hours of the elderly. This may be due to the influence of the subjective will of the elderly. Compared with the elderly's objective physical health, whether the elderly want to engage in housework determines the time of the elderly to do housework to a greater extent. In addition, the report on the health of the interviewee is in the form of self-report and may deviate from the actual situation.

An indicator of the greatest contribution to X3 is the annual total income and years of education. These two indexes reflect the personal ability of the elderly to some extent. This index has a significant negative effect on unpaid labor time, which indicates that the stronger the individual ability, the shorter the time of unpaid labor. On the one hand, this is because the elderly with strong personal ability can transform the unpaid work within the

family into social paid labor by purchasing labor; on the other hand, the elderly with strong personal ability are also more sharp and quick in doing housework. Therefore, in the same content of domestic work to shorten the time of domestic work.

An indicator of the greatest contribution to X4 is the number of households. The number of families has a significant positive effect on the unpaid working hours of the elderly. The larger the family population, the longer the elderly are engaged in unpaid work. This is mainly because the larger the number of people in the family, the greater the demand for domestic work and the increase in natural unpaid working hours.

An indicator of the greatest contribution to X5 is total annual household income. The total family income has a significant negative effect on the unpaid working time of the elderly. Because families with high income levels are more likely to solve household problems by purchasing labor, the impact of the level of total household income on the unpaid working hours of the elderly is less than that of X3 individual ability on the unpaid working hours of the elderly. This shows that personal factors are still the main factors determining the length of unpaid working hours for the elderly.

Table 3 Multiple Regression of Factors Affecting the Unpaid Working Time of the Elderly

	B	t
(constant)	-0.235 (0.082) ***	-2.871
gender	-0.285 (0.037) ***	-7.714
region		
middle@west	0.242 (0.1) **	2.407
east@west	0.247 (0.105) **	2.346
marrige	-0.026 (0.04)	-0.635
X1	0.087 (0.038) **	2.309
X2	-0.055 (0.038)	-1.464
X3	-0.141 (0.04) ***	-3.549
X4	0.147 (0.038) ***	3.869
X5	-0.065 (0.037) *	-1.755
age	0.005 (0.039)	0.122
register type	0.012 (0.043)	0.283

dependent variable: unpaid work time : \*\*p<0.01 \*p<0.05 \*p<0.1

Gender differences in factors affecting unpaid working hours of the elderly

The results of sex-specific sample regression showed that the factors affecting the time of unpaid labor participation in elderly men and women were different. For the elderly men, only the two variables of age and hukou type had a significant effect on the time of unpaid labor participation of the elderly men, and the regression results of the other variables were not significant. However, for the elderly men and women, the region, X1、X3、X4、X5 and household registration type have a significant impact on the elderly women's unpaid labor participation time. The possible reason is that women are still the main bearer of unpaid

work in the family, and men only play an auxiliary role in unpaid work in the family, so the difference in the unpaid working hours of women in the family is greater than that of men.

Compared with the western region, the elderly women in the eastern region and the central region spend more time on family unpaid work, and the family unpaid work time in the central region is obviously higher than that in the eastern region. In addition to the reasons for the greater variety of domestic work in the eastern and central regions analysed in section I, the longer participation of older women in unpaid family work in the central region may be due to the lower availability of social services in the central region.

X1 has a significant positive effect on the unpaid working time of elderly women. "Do you agree - men are career-oriented, women are family-oriented ""Do you agree - men are inherently better than women"" Do you agree - you're better than married ""Do you agree - you agree - women should be fired in times of recession ". These indicators reflect the perception of gender inequality, and the stronger the older women's own recognition of gender inequality, the longer their families work unpaid.

X2 has no significant effect on the unpaid working hours of elderly women. However, when the physical and mental health status are returned to the unpaid labor time, the mental health status has a significant negative effect on the unpaid labor time. That is, the healthier the mental health, the less the unpaid labor time, the health status still has no significant effect on the unpaid labor time of the family. This may be affected by endogenous effects because studies have shown that heavy housework can lead to a decline in women's happiness.<sup>⑤</sup>

X3 has a significant negative effect on the unpaid working time of elderly women. An indicator of the greatest contribution to X3 is the annual total income and the number of years of education, that is, the higher the personal income of the elderly women, the higher the educational background, and the shorter the unpaid working time. This may be due to a high degree of education that gives older women the awareness and the idea of buying labor, while a high personal income gives them sufficient financial capacity to pay for the purchase of labor.

X4 has a significant positive effect on the unpaid working time of elderly women. An indicator of the greatest contribution to X4 is the number of households. The greater the number of families, the longer the unpaid work performed by older women. Although the household population also slightly led to an increase in unpaid working hours for older men, the results were not significant. This is mainly because women are the main labor force in the unpaid work of the family, and the increase in domestic work caused by the increase in the family population is mainly borne by women.

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<sup>⑤</sup> Katarina Boye Relatively Different? How do Gender Differences in Well-Being Depend on Paid and Unpaid Work in Europe? [J]Social Indicators Research, 2009, 93(3)  
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X5 has a significant negative effect on the unpaid working time of elderly women. An indicator of the greatest contribution to X5 is total annual household income. The increase in this factor has significantly reduced the family unpaid working time of older women, but has no significant effect on the family unpaid working time of older men. This may be due to the fact that alternative family unpaid work, which can be purchased from the market, is currently primarily the responsibility of women, and that men are often responsible for necessary and personal work.

Table 4 Multivariate regression of factors affecting unpaid working time in older persons by sex

		male		female	
		B	t	B	t
	(constant)	-0.366(0.098)***	-3.728	-0.091(0.115)	-0.792
region	middle@west	-0.129(0.126)	-1.027	0.413(0.135)***	3.056
	east@west	0.039(0.133)	0.294	0.251(0.141)*	1.782
	marrige	-0.045(0.058)	-0.774	0.049(0.052)	0.938
	X1	-0.006(0.05)	-0.115	0.157(0.049)***	3.208
	X2	-0.005(0.049)	-0.097	-0.055(0.052)	-1.059
	X3	0.007(0.045)	0.162	-0.138(0.064)**	-2.168
	X4	0.031(0.055)	0.568	0.132(0.048)**	2.729
	X5	-0.052(0.033)	-1.572	-0.149(0.087)*	-1.706
	age	0.087(0.046)*	1.898	-0.032(0.055)	-0.577
	register type	-0.148(0.053)***	-2.778	0.14(0.058)**	2.433

dependent variable: unpaid work time ; \*\*p<0.01 \*\*p<0.05 \*p<0.1

## V. Conclusions

The following conclusions are drawn from this analysis:

In the first region, differences between urban and rural areas have a great impact on the time of unpaid work for the elderly, which is mainly determined by the type of domestic activities and the difficulty of accessing social services.

Second, this study verifies the influence of family structure, family economic income and gender on the time of unpaid labor participation. At the same time, we also find that some other factors have a significant impact on the participation time of unpaid work, such as attitude to gender equality and personal strength. This enlightens us to pay attention to the transformation and guidance of the concept of residents in the process of promoting the well-being of the people.

Third, there are significant differences in the factors affecting the unpaid working time of elderly men and elderly women. There are fewer factors affecting the unpaid work of older men, and many factors affecting the unpaid working hours of older women. From one aspect, the difference of household responsibility of elderly men in the whole country is

small, while that of elderly women is significant. This requires the Government to pay more attention to the promotion of the well-being of older women and to reduce inequalities caused by individual differences.

**References:**

- [1], Complete Works of Marx and Engels, vol .46, p .120, People's Publishing House.
- [2] Qing Shi Song, Tian Anita. Whether family work reduces wage income —— based on CHNS evidence *World Economic Bulletin* ,2015(04):77-92.
- [3] Institute of Finance and Economics Strategy of the Chinese Academy of Social Sciences and Tourism Research Center of the Chinese Academy of Social Sciences. *Leisure Green Book :2017~2018 China Leisure Development report [M].*. China Beijing. Publication of social science literature.2018
- [4] Institute of Finance and Economics Strategy of the Chinese Academy of Social Sciences and Tourism Research Center of the Chinese Academy of Social Sciences. *Leisure Green Book :2017~2018 China Leisure Development report [M].*. China Beijing. Publication of social science literature.2018
- [5] Qi, L.and X .Dong, 2013, Housework Burdens, Quality of Market Work Time, and Men's and Women's Earnings in China, "Winnipeg University Department of Economics Working Paper, No .2013-01. Statistical Study on
- [6] Unpaid Working Time Level of Chinese Residents in Hongyu [D]. China Anhui University of Finance and Economics ,2019.
- [7] Jia Wei. Capital: The Dominance of Unpaid Labor —— A Brief Analysis of the Disclosure of Capital Category in Volume 1 of Capital Academic Theory, 2015(22):80-81.
- [8] Yan Meirong. A Review of Economic Research on Domestic Work [J]. *Women's Studies*, 2009(02):73-78.
- [9] An Xinli. Time-use surveys —— a natural tool for measuring socio-economic activity *China Statistics* ,2004(04):15-16.
- [10] Wang Qiyan, Ray, Shi Lei. On the Living Conditions of the Elderly in Beijing from the Perspective of Time Allocation —— Report on the Survey of Living Time Allocation of Beijing Residents (J.) *Beijing statistics*, 2003(07): 34-35.
- [11] Katarina Boye Relatively Different? How do Gender Differences in Well-Being Depend on Paid and Unpaid Work in Europe? [J].*Social Indicators Research*,2009,93(3)