

Influence of Female Educational Level on Consumption of Family Education

Shiran Cheng*

College of Marxism, Southwest University of Political Science and Law, Chongqing, 401120, China

*2021132024@stu.swupl.edu.cn

Abstract. As education becomes more and more important, more and more families pay attention to education, and the proportion of education consumption in family consumption is increasing. According to the data of the Seventh National Census Bulletin, with the popularization of basic education, women's level of education is increasing. This study uses the Chinese Family Tracking Survey completed by the Chinese Social Science Survey Center of Peking University in 2020. The aim of this study was to investigate the effect of female educational level on family education consumption by means of linear regression. It is concluded that there is a significant positive correlation between female education level and family education consumption. It suggests that the higher the level of education for women, the higher the consumption of family education, and the level of education for women has an increasing impact on the level of consumption of family education. The education level of women has become an important factor affecting the consumption of family education.

Keywords: Women's Education Level, Family Education, Consumption Education, Equity.

1. Introduction

1.1. Background

Due to the reform and opening up, popularizing nine-year obligatory schooling has become the top precedence of Chinese educational work, and educational institutions has become China's big scheme, which has an extremely important position for rich and powerful countries, national revitalization, social harmony, and family happiness. The population of the country was 218360767 with a college (college degree or higher) education level, 213005258 with a high school (including secondary school) education level, 487163489 with a junior high school education level, and 349658828 with a primary school education level in the national census of 2021 [1]. The proportion of people with a university degree increased from 8930 to 15,467 per 100,000 while on the sixth national census ten years ago; the proportion with a high school diploma increased from 14,032 to 15,088; a percentage with a junior high school diploma decreased from 38,788 to 34,507; and the proportion with a primary school diploma decreased from 26,779 to 24,767 [1]. The increasing acceptance of basic education and the large increase in the number of people with higher education, as well as the average number of years of education as compared to the Sixth National Census, demonstrate the importance China places on education [1].

As indicated by the National Bureau of Statistics' final statistical evaluation report on the Program for the Development of Chinese Women (2011-2020), the proportion of female students in all categories of higher education outnumbers that of male pupils [2]. Female postgraduate students in colleges and universities total 1,599,000, accounting for 50.9% of all postgraduate students, a 3.1 percentage point increase from 2010; female students in general undergraduate and adult undergraduate programs total 16,742,000 and 4,506,000, accounting for 51.0% and 58.0%, correspondingly, a 0.1 and 4.9 percent point improve from 2010. 4.9 percentage points more than in 2010. This year, the degree of female education and higher education has increased dramatically [2].

Following China's rapid economic development, with the popularization of obligatory education, citizens' income and consumption levels have risen substantially. According to the 2019 China Market and Media Research annual survey statistics, women make 80.6% of household consumption options, indicating that women already dominate household consumption decisions [2]. According to

the "2017 White Paper on Consumption of Family Education in China," 2% of a family's yearly income on average is used on education [3].

1.2. Significance of the Study

1.2.1 Internal environment in family education

In the current situation that women occupy a dominant position in family education and women's higher education level is increasing, more attention should be paid to the guiding role of educated women in children's education.

1.2.2 External environment in home education

Family education expenditure is essentially a supplement to the lack of differentiation of public education. At present, when parents place huge educational expectations on their children, school education and public education can not get differentiated results, then family education expenditure is conducive to differentiated development, to meet the needs of children's personality development [4]. However, too much pursuit of differentiated development, excessive education anxiety, internal volume not only make parents fall into vicious competition, but also is not conducive to the healthy growth of children [5]. The higher the parents' educational expectations of their children, the greater the cultivation cost [6]. The dramatic increase in educational cost brought about by the educational volume undoubtedly increases the educational burden on families. In order to improve this situation, it is necessary to promote the rationalization of family education consumption and promote the virtuous cycle of family education. At the same time, it also responds to the implementation of the national double reduction policy and promotes the structural upgrading of family consumption.

1.2.3 Effect of the educational level of women on household consumption

This research promotes the proper organisation of educational resources and reduces the burden of household expenditure on education. The better-educated women are, the more family development consumption increases. In addition to promoting the upgrading of family consumption, families should be guided to invest in their children's education moderately, so as to avoid overburdening the family with education [7].

2. Literature Review and Study Hypothesis

2.1. Literature Review

In the past, most scholars have studied the level of female education in population fertility, income and consumption, and there are relatively few studies on the influence of female education level on family education consumption, most of which are roughly mentioned in the study of family consumption. Previous studies have suggested that family consumption is obviously influenced by the family members with the highest level of family education, and attention should be paid to improving the education level of family members to achieve the purpose of improving the level of family consumption [8].

According to this theory, although the educational level of Chinese women has been significantly improved, and the economic income that has a significant positive correlation with the educational level has also increased, Chinese household consumption should be dominated by men in the family. Women with higher educational attainment are more likely to choose men with higher educational attainment at mate selection, that is, homogeneous matching of education occurs in family marriages, and their spouses should be comparable to or higher than them at the level of education, while those with higher economic income levels should also be men [9]. However, this is not the case, in fact, women still dominate the consumption of family education. On the issue of children's education, previous scholars have studied their division of labor with the family as the same category. They believe that women's investment in children's education and family education consumption is due to their family disadvantage in terms of economic income and education level. On the other hand,

reality, women with greater incomes tend to divide household duties less equally and pay more attention to their family's education consumption [10]. This is because they have higher levels of education. Because of their higher level of education, they pay more attention to refined child education, invest more time and energy in child education, and spend more money on family education consumption [10].

Family education consumption, as a special type of investment in family consumption, which reflects the family's emphasis on children's education, has a significant positive effect on family education consumption in the mechanism of the influence of the level of female education in the family on the family education consumption [11]. The better the mother's education level, the more inclined to the children's out-of-school education consumption, the advantageous families also have the ability to help their children to find high-quality out-of-school education resources [4].

In a nutshell, although there is a large body of available literature on the impact of parents' education level or mothers' education level on household consumption, this paper concentrates on the impact of female education level on household consumption of education. This study examines the relationship between female education level and household education consumption, and it is expected that the results will show that the higher the female education level, the higher the household education consumption.

2.2. Study Hypothesis

From the literature review mentioned above, it is known that the level of female education has an impact on both the expenditure and the structure of household consumption of education. Hence this study proposes the following research hypotheses.

Since the degree of education of women and their income level have a strong positive correlation, the more education a woman has, the higher her income, and at this point, her household's consumption spending may also rise:

Hypothesis: More money is spent on household education consumption the more educated a woman is.

3. Design

3.1. Concept Definition

Educational level refers to the extent to which people are educated, it generally divided into primary education, secondary education, higher education three levels. Among them, female education level refers to the degree of female education, is the independent variable in this study; educational consumption refers to the expenditure on educational materialization products and educational labor services, is the dependent variable of this study.

3.2. Research Questions

When education becomes the main part of family consumption and education consumption has become the necessary expenditure for a family to cultivate children, this paper studies the influence of women's educational level on family education consumption.

3.3. Methods

3.3.1 Literature review method

Through the analysis and collation of the previous literature, this paper finds out the influence of parental education level on family consumption, and less focus on the special investment consumption of female education level and family consumption education, so as to determine the research problem and put forward the research hypothesis.

3.3.2 Empirical analysis

Using linear multiple regression, cross-sectional data were produced using data from the China Household Tracking Survey 2020 to analyze the impact of women 's level of education on household education consumption expenditure and structure and whether there were urban-rural differences

3.4. Variables and Data

3.4.1 Data source

The survey data on household microdata used in this document are largely derived from the China-National Court Tracking Survey (CFPS2020) completed by the Centre for Social Science Surveys (CSS) of Peking University in 2020. A sample of 28,590 families from 31 provinces, municipalities, and autonomous regions was selected for the survey. The data consisted of four sub-banks: a family library, an adult library, a child library, and an economic library. In this paper, the family library is adopted as the basis, and the data of the four sub-libraries are matched and aggregated according to the family code and individual code.

3.4.2 Variables

The level of female education as an independent variable is then the highest educational background of the mother in the family and the years of maternal education, with seven stages according to illiteracy/semi-illiteracy: elementary school = 2; junior high school = 3; senior high school = 4; college = 5; undergraduate college = 6; and Master and PhD = 7. Years of education were measured as illiterate/semi-illiterate = 0; elementary school = 6; junior high school = 9; senior high school/secondary school/technical school/vocational high school = 12; college = 15; undergraduate = 16; Master and PhD = 19, and years of education were used in regression analysis. Household education consumption as a dependent variable was total 12-month education expenditure (thousand yuan) (see Table 1).

Table 1. Variable Interpretation

Variable Name	Variable interpretation	Variable Description
Cfps2020eduym	Maternal education	Years of Mother Education
Cfps2020eduyf	Father Education	Years of education for father
New total	Total Expenditures for Education in the Last 12 Months (Thousand Yuan)	Including miscellaneous fees, school selection fees, extracurricular counseling fees, etc.
New finc	Total income over the past 12 months (thousands RMB)	Total household income
Urban20	Urban-rural classification	Town = 1; rural = 0
Qc3 fz	Education Stage	Primary school = 1; junior high school = 2; senior high school = 3 ; College = 4; undergraduate = 5; Master and PhD = 6
Wa 002	Child Gender	Male = 1 ; Female = 0

Through the literature review, the author already knows that scholars for family education expenditure part of the influencing factors analysis, the author tries to control the family and individual level of information, in order to reduce errors. In this paper, five control variables are set up, which are the income of the family court, the level of father 's education, the sex of children in the children' s learning stage and the classification of urban and rural areas. In terms of child gender,

males were defined as 1; females as 0, of which 594 samples were females and 711 samples were males; in the urban-rural classification, urban areas were defined as 1; rural areas were defined as 0, of which 614 samples were from urban areas and 691 samples were from rural areas.

Table 2. Statistical Analysis of Variables

Name	Sample Size	Minimum value	Max	Mean	Std	Median
Years of Mother Education	1305	0.000	19.000	8.585	3.972	9.000
Years of education for father	1305	0.000	22.000	9.454	3.569	9.000
Gender	1305	1.000	2.000	1.545	0.498	2.000
Urban-rural classification	1305	1.000	2.000	1.470	0.499	1.000
Education Stage	1305	1.000	6.000	1.755	0.983	2.000
Total income over the last 12 months (1,000 Yuan)	1305	0.000	1100.000	90.883	94.024	60.000
Total education expenditure over the past 12 months (1,000 Yuan)	1305	0.000	108.000	5.338	8.317	3.000

Finally, according to Table 2, excluding missing, refused responses, did not know, and not applicable, 1305 sample data were finally retained.

4. Results

Gender, rural-urban classification, current school stage attended, father's years of educational attainment, mother's years of educational attainment and total income in the last 12 months were used as independent parameters and total expenditure on education in the last 12 months was used as the dependent variable in the linear correlation analyses (see Table 3). The model equation was:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_n X_n + \mu_i$$

This indicates that the overall earnings over the previous 12 months (measured in thousand yuan), urban/rural status, father's and mother's years of education, and total educational expenditures over the previous 12 months are all employed as distinct factors in the linear regression calculation. Table 4 reveals that the model equation is: total expenditure on education in the last 12 months = -4307.149 + 65.476* educational stage + 478.188* gender + 19.641* total income in the last 12 months + 1341.401* urban/rural categorization + 332.278* number of years of schooling of the father + 214.365* number of years of schooling of the mother.

The R-square result of the model is 0.163, which indicates that stage of education, gender, total earning in the last 12 months, urban-rural segmentation, father's years of schooling, and mother's years of schooling explain 16.3 per cent of the variance in total expenditure on education in the last 12 months.

The F-test of the model was conducted and it was observed that the model passed the F-test ($F=42.126$, $p=0.000<0.05$), i.e., it demonstrated that at least one of the items of stage of education, gender, gross income in the last 12 months, urban-rural classification, father's years of schooling, and mother's years of service in schooling has an effect on the relationship of the total expenditure on education in the last 12 months as can be traced in the last specific diagnosis:

The regression coefficient value for education stage was 65.476 ($t = 0.304$, $p = 0.761 > 0.05$), meaning that the education stage did not have an impact on total educational expenditure (yuan) over the past 12 months.

The regression coefficient value for gender was 478.188 ($t = 1.127$, $p = 0.260 > 0.05$), meaning gender did not affect total educational expenditure over the past 12 months.

The regression coefficient value for total income in the last 12 months was 19.641 ($t = 8.149$, $p = 0.000 < 0.01$), meaning that total income in the last 12 months would have a significant positive impact on total educational expenditure in the last 12 months.

The regression coefficient value of urban-rural classification was 1341.401 ($t = 2.930$, $p = 0.003 < 0.01$), which means that urban-rural classification will have a significant positive impact on total educational expenditure in the past 12 months. Assumption 2 holds.

The regression coefficient value for paternal years of education was 332.278 ($t = 4.201$, $p = 0.000 < 0.01$), meaning that paternal years of education had a significant positive impact on total educational expenditure over the past 12 months.

The regression coefficient value for maternal years of education was 214.365 ($t = 2.944$, $p = 0.003 < 0.01$), meaning that maternal years of education had a significant positive impact on total educational expenditure over the past 12 months. Assumption 1 holds.

It can be concluded from the summary analysis that maternal years of education will have a significant positive impact on total educational expenditure in the past 12 months under the control variables of total income in the past 12 months, urban and rural classification, and paternal years of education.

Table 3. Linear Regression Analysis

VARIABLES	(1) Newtotal
Wa002	0.478 (0.424)
Cfps2020eduyf	0.332* (0.079)
Cfps2020eduym	0.214 * (0.073)
Urban20	1.341* (0.458)
Qc3fz	0.066 (0.216)
Newfinc	0.020* (0.002)
Constant	-2.487* (0.734)
Observations	1, 305
R-squared	0.1630
F pvalue	0
R2a	0.159
F	42.12

Table 4. Linear Regression Analysis Results (n = 1305)

	Non-normalized Coefficient		Standardized Coefficient	T	P	Collinearity diagnosis	
	B	Standard Error	$Beta$			VIF	Tolerance
Constant	-4307.15	1034.138	-	4.165	0.000*	-	-
Education Stage	65.476	215.513	0.008	0.304	0.761	1.009	0.992
Gender	478.188	424.375	0.029	1.127	0.26	1.005	0.995
Total income over the last 12 months (1,000 Yuan)	19.641	2.41	0.222	8.149	0.000*	1.155	0.866
Urban-rural classification	1341.401	457.857	0.081	2.93	0.003*	1.175	0.851
Years of education for father	332.278	79.095	0.143	4.201	0.000*	1.792	0.558
Years of Mother Education	214.365	72.821	0.103	2.944	0.003*	1.881	0.532
R^2	0.163						
Adjusted R^2	0.159						
F	$F(6, 1298) = 42.126, p = 0.000$						
D-W value	1.734						
Dependent variable: total education expenditure in the past 12 months (yuan)							
* $p < 0.05$ * $p < 0.01$							

5. Recommendations

Most previous studies have explored the impact of parental educational level on household consumption, and this article mainly focuses on women's educational level and more special educational expenditure in household consumption, and studies the relationship between women's educational level and household educational consumption

Nevertheless, it was found in the course of the study that many families would start saving for their children's future education at a young age, at a time when overseas study and learning were becoming increasingly trendy. The study, however, did not take household education consumption of education for kids funds into account as one of the home education purchase disincentives. Instead, a woman's need to save for her children's education may increase as her education level does, as may her drive to sacrifice for their education, and as may her influence over domestic education spending.

It indicates that future research in this area should take into account not only the benefits of women's education levels on education consumption, but also the effects of women's education levels on education savings and the effects of education savings on family consumption and education consumption.

6. Conclusions

The present study examines the hypothesis of mother's education level and family education consumption from the theory of division of society and the theory of education equity, on the basis of the data from the 2021 China Household Tracking Survey. The conclusion is as follows: the level of female education is significantly and positively correlated with household education consumption; the more educated a woman is, the more she spends on education in her household consumption; the less educated a woman is, the less she spends on education in her family consumption.

Differences in household consumption of education exist objectively, and although the fairness and equity of education has been continuously promoted, the level of education is still an important tool for class division and class crossing. What appears to be a difference in women's education level is in fact a reflection of family class and the importance of the family's role in education.

It is therefore all the more important to invest more in education and to make access to educational resources easier. It should be noted that the main purpose of expanding investment in education is to help low-income families to have better access to education resources, and to compensate for the unaffordable consumption of education due to their fragile economic capacity.

The importance of highlighting the function of the level of female education in family consumption of education is larger since women are more involved in the intergenerational transmission of knowledge.

References

- [1] Seventh National Census Bulletin No. 6 — Population Education, National Bureau of Statistics, Office of the Seventh National Census Leading Group of the State Council, May 11, 2021
- [2] Final Statistical Monitoring Report of the Outline for the Development of Chinese Women (2021-2020), National Bureau of Statistics December 2021
- [3] Weibo Data Center: 2017 White Paper on Family Education Consumption in China, 2017.
- [4] Bin Huang, Peiyun He, Yu Zhu, Yi Wei, The Divergence of Chinese Families' Out-of-School Education Expenditures Based on Parents' Educational Background and the Optimisation of the Implementation of the "Double-Reduction" Policy from the Perspective of Families' Needs, Chinese Journal of Education, April 2022
- [5] Tang Yan, Liu Yongqing, Fu Yun, An empirical analysis of the factors influencing parents' internalisation of education in primary and secondary school students, Journal of Chengdu Teachers' College, Nov 2022
- [6] Yang Zhen, Zhang Qian, Children's Education and Family Consumption under the Perspective of Educational Expectations - Causal Inference Based on Counterfactual Framework, Economic Issues. no. 7, 2019
- [7] Xiao Qin and Zhang Beibei, The impact of women's education level on household consumption upgrade, Science, Technology and Industry, 2022
- [8] Shen Liyuan, Research on the impact of education level on household consumption level, Master's thesis of Southwest University, 2022.
- [9] Meiling Li, Study on the Influence of Parents' Education Level on Family Education Expenditure, Master's Thesis, Huazhong University of Science and Technology, China, 2022.
- [10] Xu Qi, The Impact of Women's Education Level on the Division of Labour in Childcare - An Empirical Study Based on Data from the Third Survey on the Social Status of Chinese Women, Women's Studies Series, November 2021
- [11] Mengqi Huang, Jongfan Kim, How female educational attainment affects household consumption - Empirical evidence from CHFS, National Economic Management, Feb 2022