The Impact of Childcare Status on Women's Employment: A Study on the Mediating Effect of Investment in Children's Education

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Abstract. Based on data from the 2022 China Family Panel Studies (CFPS), this paper delves into how parenting status affects women's employment income through the mediating pathway of investment in children's education. The study aims to reveal the core role of the emerging phenomenon of "motherhood brokerage" in women's "work-life conflict." The results show that: first, parenting status (measured by the number of children) has a significant direct negative impact on women's employment income; second, increased parenting burden significantly increases mothers' time investment in children's education; and finally, investment in children's education plays a significant partial mediating role in the above pathway.

Keywords: investment in children's education; maternal punishment; parenting status; educational competition

1 Introduction

With the implementation of the two-child and three-child policies, the labor participation rate of women has also shown a significant downward trend. The reason lies in the dilemma women face in reconciling their responsibilities of childbirth and childcare with their career development needs in terms of time and energy allocation—a phenomenon known as "career-education conflict." Existing research generally points out that the traditional gender division of labor, with men working outside the home and women inside, has solidified women's role as family caregivers, restricting their labor participation [17]. This is especially true given that motherhood has shifted from traditional caregivers to "education brokers" [14], highlighting a key mediating pathway between childcare status and women's career development—investment in children's education. Therefore, this study focuses on this key mediating variable, empirically examining its transmission mechanism in the relationship between childcare status and women's employment development.

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2 Hypothesis Formulation

2.1 Childcare Status and Women's Employment Status

Labor remuneration is an important indicator for measuring the employment status of women [8]. The occupational structure refers to the distribution of women in different industries and occupational categories; occupational mobility refers to the changes in women's careers across occupations, industries or job levels; and labor remuneration is usually measured by hourly wage, monthly income or annual income. In existing research, educational attainment, family economic needs and women's family responsibilities are the three main micro factors affecting women's labor participation [10]. Women enhance their human capital reserves and occupational adaptability through the improvement of educational attainment, thereby improving their employment quality and career development potential. Such as child-rearing and elderly care significantly compress their employment time resources, reduce labor participation rates, shorten working hours and affect income levels [6]. Western research indicates that children are the most important factor preventing women from participating in the labor force [10], and the negative impact of child-rearing responsibilities on women's labor participation has also been verified in Chinese society [4]. Specifically, each child born to a woman causes her wage to decrease by about 7% [15]. Based on the above analysis, this paper proposes Hypothesis 1.

H1: Child-rearing status has a significant negative impact on women's employment status.

2.2 Child-rearing Status and Investment in Children's Education

Yang K put forward the concept of " mother broker, " pointing out that the role and responsibility of mothers have gone beyond the traditional life care responsibilities [14]. They also need to carry out educational information collection, extracurricular resource integration, personalized learning program customization and long-term homework counseling with professional standard [18]. This additional role responsibility constitutes the hidden cost input of mother 's continuity[11]; The formation and strengthening of the role of " mother broker " is influenced by multiple family factors [14]. First, the stronger the concept of family education, the higher the expectation and input cost of children 's education, and the more likely it is to promote the transformation of mothers to the role of " educational broker. " Secondly, under the traditional division of labor mode of " male outside and female inside, " the family 's children 's education investment shows the gender division of labor characteristics of " father 's emphasis on economic investment and mother 's leading human investment " [14]. Finally, the family structure also plays an important role: grandchild care can partially alleviate the pressure of mothers, and the composition of children is a key variable of educational needs and maternal input intensity. Existing research shows that the financial, time and emotional investment of both parents in two-child families will be greatly increased compared with that of one-child families [7]. Therefore, based on the above analysis, hypothesis 2 is proposed.

H2: Parenting status has a significant positive effect on children 's education investment.

2.3 The Mediating Role of Investment in Children's Education.

To maintain or enhance their children's relative advantage in the education race, mothers' roles are gradually evolving into "education brokers," requiring them to continuously invest significant implicit human resources in areas such as educational information gathering, integration of extracurricular resources, and long-term learning supervision. Existing research indicates that the impact of children's education investment on women's employment is primarily transmitted through a dual economic effect: an income effect and a crowding-out effect [5]. On the one hand, increased education expenditure may generate an "income effect," meaning that mothers will increase the market labor supply to pay for high education costs. On the other hand, the intensive time and energy mothers invest in their children's education crowds out their own time and energy for career development [11], with the time and energy crowding-out effect being particularly prominent. This not only encroaches on women's time and resources available for career development but also weakens their professional competitiveness and sustainable development capabilities, creating a long-term impact on women's career continuity and promotion prospects, constituting one of the core mechanisms of "motherhood punishment" [5]. Thus, proposing Hypothesis 3.

H3: Parenting status affects women's employment status through investment in children's education.

3 Research Design

3.1 Variable Selection

3.1.1 Core explanatory variables.

The core explanatory variable of this paper is child-rearing status (Child). Parenting is a dynamic ' process ', which is the result of the interaction and integration of parents ' personal resources and characteristics, children 's characteristics and social situations and support systems [1]. The composition of children is mainly measured in three dimensions: the number of children, the age structure of children and the gender structure of children. As another key dimension, the age structure of children often distinguishes different age groups such as preschool children (such as 0-6 years old) and children in compulsory education (such as 6-15 years old). The measurement of children 's gender composition mainly appears in the gender differences in the allocation of resources within the family of cultural traditions in a specific society. However, the number of children is the most direct indicator to measure the burden of family parenting, which can directly reflect the constraint effect on the labor supply of mothers. Therefore, this paper adopts the number of minor children raised by mothers as the core interpretation of the measurement and definition criteria.

3.1.2 Explained Variable.

The explained variable in this paper is female employment status (WorkInc). Women 's employment refers to the economic activities that women can independently measure their income except for housework, which can be measured by labor remuneration, employment field, employment area and employment nature [8]. Labor remuneration is the core index of market-oriented evaluation, which directly reflects the competitiveness of women in the labor market through the monetary income such as wages and bonuses obtained by women in the market. Its level can directly reflect the career development of women in the labor market. Therefore, this article will use labor remuneration as an indicator to measure women 's employment status.

3.1.3 Mediating Variable.

As shown in Table 2, the mediating variable employed in this study is parental educational investment in children (EduHrs). Parental investment in education refers to the resources that parents invest in their children's education, including expectations, emotional support, and academic tutoring. [3]. In extant literature, educational investment is primarily categorized into time investment and economic investment [9].

Time investment exerts a direct impact on women via a crowding-out effect, whereas economic investment influences women's labor force participation decisions indirectly through an income effect. Nevertheless, time investment more directly reflects the time allocation trade-off mothers confront between childcare and paid employment. Consequently, this study adopts time investment as the core criterion for measuring the magnitude of parental educational investment in children.

3.1.4 Control Variables.

In current research, age is generally highly correlated with potential work experience. Older women are more likely to have greater human capital accumulation, which directly affects their wage rate and employment stability. Meanwhile, a mother's education level directly determines her market wage level and career choices, and also influences her children's educational attitudes. As shown in Table 1, this paper sets the mother's age (Age) and education level (Edu_Level) as control variables.

Table 1. Variable Coding.

Variable name	Variable encoding
Age	29 years and under = 1; 30-34 years old = 2; 35-39 years old = 3; 40 years and over = 4
Mother's Education Level (Edu_Level)	Illiterate/semi-literate = 1; Primary school = 2; Junior high school = 3; Senior high school/Technical secondary school/Vocational high school = 4; Junior college = 5; Bachelor's degree = 6

Table 2. Definitions of Key Variables.

	Name	Abbreviation	Definition
Core Explanatory Variable	Women's employment status	WorkInc	Labor remuneration earned.
Explained Variable	Childcare status	Child	Number of minor children the mother has conceived.
Mediating Variable	Investment in children's education	EduHrs	Time the mother devotes to her children's education.
Control Variables	Mother's age	Age	Mother's age.
	mother's education level	Edu_Level	Latest highest degree.

3.2 Model Construction

Mediation Model

The mediation model is used to explore the mechanism by which independent variables influence the dependent variable through mediating variables [12]. First proposed by Baron and Kenn, this model is mainly used to analyze indirect action paths between variables and reveal the role of mediating variables between independent and dependent variables [2]. This paper uses a three-step regression mediation model to examine the mechanism by which parenting status affects women's employment status. The specific model settings in this paper are as follows:

$$WorkInc = \alpha_1 + \beta_1 \times Child + \gamma_1 \times Age + \delta_1 \times Edu_{Lecel} + \varepsilon_1 \quad (1)$$

$$EduHrs = \alpha_2 + \beta_2 \times Child + \gamma_2 \times Age + \delta_2 \times Edu_{Level} + \varepsilon_2 \quad (2)$$

$$WorkInc = \alpha_3 + \beta_3 \times Child + \beta_4 \times EduHrs + \gamma_3 \times Age + \delta_3 \times Edu_{Level} + \varepsilon_3 \quad (3)$$

Where, Child represents the number of children, EduHrs represents time spent on education, and WorkInc represents work income. The coefficients a, b, c, and c' correspond to the mediation path coefficient, direct effect coefficient, total effect coefficient, and direct effect coefficient, respectively. γis the coefficient of the control variable, and ε is the random error term.

4 Empirical Analysis

4.1 Data Sources and Descriptive Statistics

The data used in this paper comes from the 2022 China Family Panel Studies (CFPS) survey. A multi-stage, stratified probability sampling method proportional to population size (PPS) was used to conduct a continuous cross-sectional survey of more than 10,000 households in 25 provinces (autonomous regions and municipalities) across the country. Using the latest cross-sectional data from 2022, the sample was processed as follows based on the research theme and data characteristics: (1) The sam-

ple age was limited to 21-50 years old according to the age range of women of childbearing age; (2) To exclude the influence of divorce values on the regression results, the number of children desired was truncated by 1%; (3) Samples with missing values in the core variables were deleted. After the above processing, a total of 172 valid samples were obtained. The descriptive statistics of the main variables are shown in Table 3.

Table 3. Descriptive Statistics

Variable	Symbol	Mean	Standard Deviation	Minimum	Maximum
WorkInc	172	109331.4	114033.37	3000	1135000
Child	172	2.703	1.803	1	11
EduHrs	172	4.216	3.261	.5	30
Age	172	2.558	.789	1	4
Edu Level	172	2.977	1.589	0	6

4.2 Mediation Tests

As shown in Table 4, model 1 shows that parenting status has a significant direct negative impact on women 's employment status ($\beta = -13582.450$, $p < 0.05$). The H1 hypothesis is verified, indicating that the increase in the number of children will directly lead to a significant decline in female labor remuneration. Model 2 examines the impact of parenting status on the mediating variable of children 's education investment. The results show that parenting status has a significant positive impact on children 's education investment ($\beta = 0.158$, $p < 0.01$), assuming that H2 is established. This means that the more children there are, the more time mothers invest in their children 's education. Model 3 shows the direct effect of children 's education investment and parenting status on women 's employment status. On the one hand, the direct negative effect of parenting status on women 's employment status is still significant ($\beta = -10509.357$, $p < 0.10$), but the absolute value of its coefficient is lower than that in the total effect model (-13582.450). On the other hand, the investment in children 's education itself also shows an independent significant negative impact on women 's employment status ($\beta = -6092.636$, $p < 0.10$), assuming that H3 is established.

Regarding control variables, the absolute values of the t-values corresponding to the regression coefficients of mother's age and education level in Models 1, 2, and 3 are all less than the critical value, indicating no significant impact on the explained variable. In terms of model fit, the sample size for all three models is 172, and the R^2 values are 0.055, 0.083, and 0.082, respectively. The adjusted R^2 and F-values also show that the models have some explanatory power.

Table 4. Mediation Effect Test Results

Variables	Model 1: Total Effect (WorkInc)	Model 2: Mediation Path (EduHrs)	Model 3: Direct Effect (WorkInc)
Core Variables			
Child	-13582.450** (-2.858)	—	-10509.357* (-2.147)
EduHrs	—	0.158*** (3.809)	-6092.636* (-2.227)
Control Variables			
Age	-14844.959 (-1.367)	-0.081 (-0.481)	-15901.819 (-1.481)
Edu_Level	-2230.031 (-0.414)	0.017 (0.198)	-3973.818 (-0.739)
Constants	190665.099*** (5.251)	2.197*** (3.865)	215939.683***(5.737)
Model Fit			
Sample Size	172	172	172
R^2	0.055	0.083	0.082
Adjusted R^2	0.038	0.066	0.060
F-value	3.258*	5.042**	3.740**

4.3 Robustness Tests

To ensure the reliability and robustness of the above conclusions and avoid estimation biases caused by the dependent variable measurement method or model specification, this section will conduct robustness tests: The bias-corrected percentile bootstrap method will be used to further verify the mediating effect of investment in children's education. As shown in Table 5, the indirect effect of parenting status on women's employment through investment in children's education is -3073.093, with a 95% bootstrap confidence interval of [-9467.311, -204.385], excluding 0. This statistically confirms the significant existence of the indirect effect. Meanwhile, after controlling for mediating variables, the direct effect of childcare status on female employment (-10509.357) remained significant ($p = 0.033$), indicating that investment in children's education played a partial mediating role in the relationship between the two. Therefore, the Bootstrap method showed that the mediation test results were valid, further validating the mediation effect results described above.

Table 5. Robustness test results of mediating effect based on Bootstrap method

Effect type	Effect size	Standard error	t-value	p-value	Bootstrap95% confidence interval	Standardized effect
Total effect (X→Y)	-13582.450	4751.651	-2.859	0.005	[-22963.096, -4201.804]	-0.215
Direct effect (X→Y)	-10509.357	4895.206	-2.147	0.033	[-20173.826, -844.887]	-0.166
Indirect effect (X→M→Y)	-3073.093	2404.473	-	-	[-9467.311, -204.385]	-0.049

5 Conclusions

Based on the panel data of 25 provinces in 2022, this paper studies the relationship between parenting status, children 's education investment and women 's employment status. (1) Parenting status has a significant negative impact on women 's employment income. (2) Parenting status has a significant positive effect on children 's education investment. (3) Children 's education investment plays an important part of the intermediary role in the relationship between parenting status and women 's employment. Due to physiological constraints such as social attitudes, differences in labor market returns, and fertility and breastfeeding, mothers will be more inclined to the family sector, resulting in mothers reducing labor market investment and investing more time in children 's education that is considered to have higher returns. The theory of ' mother broker ' further reveals the specific process of this resource reallocation. Mother 's role practice is forced to be " brokered " in a market-oriented educational environment. Her work covers highly specialized activities such as information collection, strategic planning, and resource integration, thus constituting a huge amount of hidden human input that is difficult to be fully measured by traditional indicators [14].

First, strengthen internal and external support to alleviate mothers' "education manager" responsibilities. The traditional "men work outside the home, women work inside the home" family division of labor has a profound impact, causing women to bear more responsibility related to education [13]. Achieve "integration of education and care," promote the deep integration of childcare and educational services, provide multiple services such as educational planning and educational resource selection, share women's educational responsibilities, and alleviate maternal pressure. Second, improve the family female-friendly work system and alleviate the conflict of women 's " vocational education. " Flexible work arrangements help to alleviate the impact of children 's education competition on women 's labor participation [16]. At the same time, government agencies should promote and supervise the implementation of relevant legal systems such as gender equality in the workplace of enterprises, protect the legitimate rights and interests of women in the workplace. Third, optimize the allocation mechanism of educational resources and alleviate family education anxiety. The educational motherhood reflects the transfer of public educational responsibilities to the private domain of the family. The educational pressure of the family has significantly reduced women 's labor participation rate and participation intensity [16]. By promoting the balanced development of compulsory education, establishing a mechanism for the flow of urban and rural and regional educational resources.

References

1. Belsky, J. (1984). The Determinants of Parenting: A Process Model. Child Development, 55(1), 83-96.
2. Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of*

personal ity and social psychology, 51 (6),1173-1182.htS://dei-org/10.1037//0022-3514.51. 6. 1173 (2).
3. Blossfeld, H.-P., Buchholz, S., & Schindler, S. (2016). *Persistent inequality? Changing educational inequalities in thirteen countries*. Barbara Budrich Publishers.
4. Cai, F., & Wang, M. Y. (2004). Changes in urban labor force participation rates in China and their policy implications. *Social Sciences in China*, (4), 68–79 + 207.
5. Chen, Z. F. (2021). The impact of parental investment in children's education on women's labor force participation. *Journal of Educational Economics Review*, 6(5), 83–104. https://doi.org/10.19512/j.cnki.issn2096-2088.2021.05.005
6. Fan, H. L., & Chen, L. (2015). Substitution effect or income effect? The impact of elder care on women's labor force participation. *Population & Economics*, (1), 91–98.
7. Hong, X. M., & Zhu, W. T. (2020). Constructing a family support system for infant and toddler care under the universal two-child policy: An analysis based on parenting stress, motherhood dilemma, and social support. *Journal of Educational Studies*, 16(1), 35–42. https://doi.org/10.14082/j.cnki.1673-1298.2020.01.005
8. Liu, B. H. (1995). The employment situation of women in China. *Sociological Research*, (2), 39–48. https://doi.org/10.19934/j.cnki.shxyj.1995.02.007
9. Lin, X. Y., Wang, S., Zhang, M. Y., & Zhou, J. (2009). Factors influencing academic performance of migrant children: An analysis from the perspectives of educational expectations, educational investment, and learning engagement. *Journal of Beijing Normal University (Social Sciences)*, (5), 41–47.
10. Lippe, T. V. D., & Dijk, L. V. (2001). *Women's employment in a comparative perspective.* Routledge. https://doi.org/10.4324/9780203321958
11. Wang, W. T., Zhou, H. C., & Zhang, Y. Y. (2021). Invisible household investment in education: The pressure of children's academic advancement and mothers' income loss. *Economic Research Journal*, 56(9), 73–89.
12. Wen, Z. L., Zhang, L., Hou, J. T., & Liu, H. Y. (2004). Testing and application of the mediation effects. *Acta Psychologica Sinica*, (5), 614–620.
13. Wu, Y. X., Wang, P., & Du, S. J. (2018). Changing family structure and adolescent development in China. *Social Sciences in China*, (2), 98–120 + 206–207.
14. Yang, K. (2018). The brokerization of motherhood: Changing maternal roles in the context of educational marketization. *Collection of Women's Studies*, (2), 79–90.
15. Yu, J., & Xie, Y. (2014). The impact of childbearing on women's wage rates in China. *Population Research*, 38(1), 18–29.
16. Yang, X., & Wei, Y. X. (2025). Female labor force participation in Chinese households: Evidence from children's academic transition periods. *Journal of Shanxi University of Finance and Economics, 47*(8), 15–29. https://doi.org/10.13781/j.cnki.1007-9556.2025.08.002
17. Zhuang, Y. X. (2020). Motherhood penalty theory and its explanation of women's occupational status: Theoretical advances, pathways, consequences, and institutional arrangements. *Foreign Social Sciences*, (5), 140–149.
18. Zhang, C. N., Sheng, H., Sun, Y., & Xiao, F. Q. (2024). Report on children's out-of-school life: Family education. *China Off-Campus Education*, (3), 5–37.