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# A Study on the Impact of Family Development Capacity on the Dual Burden of Elderly Care and Child-rearing: An Empirical Test Based on Latent Profile Analysis

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**Abstract:** This study aims to accurately identify different household types based on the 2022 data from the China Family Panel Studies (CFPS). It also seeks to identify variations in the dual burden of caring for the elderly and children across these types. The study uses the sophisticated technique of Latent Profile Analysis (LPA). It gives a complete analysis of multidimensional variables. These include household assets, and social security coverage. The analysis classifies households into four types: high income and high security households, medium asset and medium security households, low income and low security households, high debt and high risk households. Findings indicated that the extent of the double burden of caring for the elderly and children differed greatly across household types.elatively low burden for high-income, high-security households. Low-income, low-security households bear heavier pressures. Marked heterogeneity is evident between urban and rural areas. It is also evident across different regions.It's more expensive to raise children in urban households. Rural households face difficulties in accessing resources for elderly care. The nature of the burden varies across regions. The reasons lie in differences in culture, policy and levels of economic development. This study provides an important reference for understanding family development. It also provides a reference for formulating differentiated family policies.

**Keywords:** Family Types; Dual Burden of Child-Rearing and Elderly Care; Latent Profile Analysis; Urban–Rural Disparities; Regional Heterogeneity

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## 1. Introduction

### 1.1 Research Background

The stable development of the family serves as a conduit for promoting the harmonious and sustainable development of the population, the economy and society. Family development is not only concerned with the all-round development of the individual, but also with the long-term sustainable development of the economy, society and the population. The family is the basic unit of society. It holds a unique and important position in national governance. Governments around the world have paid close attention to family development issues. They have employed policies to enhance the capacity of families for development and to improve their functioning. These policies help families better cope with the challenges brought about by socio-economic changes. The United Nations designated 15 May of each year as "International Day of Families" in 1994[1]. This was to encourage countries around the world to prioritise family development. The Chinese government has consistently

attached great importance to family development. Since the 12th Five-Year Plan, family development issues have featured prominently in national policy planning. The 13th Five-Year Plan and the National Population Development Plan (2016–2030) both emphasise the need to "focus on family development"[2]. General Secretary Xi Jinping has spoken highly of the vital role of family development. He has also spoken highly of the importance of family-building. He emphasised: "The family is the building block of society. No matter how times change, or how the economy and society develop, for any society, the family remains an irreplaceable foundation for life, an irreplaceable social institution, and an irreplaceable force for civilisation[3]."

### 1.2 Literature Review

The concept of 'family development capacity' originates from Western academic discourse on family functions. Scholars abroad have explored this concept from the dual perspectives of 'family functions' and 'family policy', subsequently extending it to family development capacity. Hiedel argues that family development capacity has evolved from family functionalism. The concept of 'family functions' was first proposed in the mid-to-late 20th century; whilst subsequent scholars have offered varying definitions and no consensus has been reached, their approaches generally follow two lines of thought: Firstly, the school of thought represented by Sinner holds that family function refers to a process model for the successful fulfilment of family tasks[4][5]. In this process, family members engage in emotional and effective communication to fulfil the tasks associated with their respective roles within the family and to form relatively consistent values; through this process, the capacity for both individual and family development is enhanced. Secondly, the school represented by Olson views family functioning from the perspective of family characteristics[6]. They maintain that family functioning ensures the maintenance of emotional bonds, friendly communication and the joint resolution of unexpected incidents amongst members, whilst the capacity to refine these family characteristics constitutes the capacity for family development.

Chinese scholars, in their discussion of the concept of family development capacity, have also interpreted related concepts such as family functioning, family development and family policy. Wu Fan et al. defined family development capacity as the ability to acquire resources to meet the daily living needs and personal development of all family members[7][8]. Building upon Wu Fan's definition, Shi Zhilai further incorporated sustainable development into the scope of family development capacity. Kan Xinglong et al. argued that family development capacity is constituted by the combined levels of family income, child-rearing capabilities, and family sustainability. Zhou Changhong proposed that family development capacity refers to the capacity within a family to support the healthy growth and happy lives of its members[9]. This capacity is primarily manifested in the following aspects: economic support, child-rearing ability, physical and mental health, old-age security, harmonious family relations, and the cultivation of civic behaviour. Mu Guangzong maintains that family development capacity refers to the structural and functional state of a family in meeting the basic needs of its members; it represents the functional level resulting from the integration of the health of family members at different stages of the life cycle, family social relationships and family demographic structure[10]. This includes the capacity for healthy development, childbearing and rearing, unity and mutual support, learning and work, risk resilience, moral self-discipline and self-sufficiency[11]. Ni Honglan et al.define family development capacity as: under the guidance of mutually recognised family development goals, family members fulfilling their family roles with a positive, optimistic and tolerant attitude[12]. At the same time, they are able to calmly face the various risks and challenges encountered in the course of family life, meet the basic needs of each family member, and thereby continuously realise the family's central role in social development[13][14]. Huang Ling et al. defined family development capacity as comprising material capital, human capital and social capital, and provided a clarification of these concepts[15].

## 2. Research Objectives

### 2.1 Data Sources

The data used in this study are drawn from the China Family Panel Studies (CFPS), conducted by the Institute of Social Sciences Survey (ISSS) at Peking University. The CFPS collects data over the long term at three levels—individual, household and community—covering a wide range of topics including village/neighbourhood profiles, family relationships, population mobility, household finances, housing and facilities, employment and income, education, marriage, health, attitudes and beliefs, cognitive abilities and social interactions. The survey employs a multi-stage, implicitly stratified and population-proportional systematic probability sampling method, relying primarily on face-to-face interviews, telephone and

online interviews, as well as proxy responses, to collect data at the individual, household and community levels. The CFPS baseline survey commenced in April 2010, covering 649 villages or neighbourhoods across 162 counties (or districts) in 25 provinces, autonomous regions and municipalities directly under the central government; ultimately, fieldwork was completed in 635 villages (or neighbourhoods).

This study is based on the 2022 data from the China Family Panel Studies (CFPS). To ensure the representativeness and reliability of the sample, the raw data underwent rigorous screening: firstly, samples with missing values for core variables such as household income, number of children and education expenditure were excluded; secondly, outliers where household assets or liabilities deviated significantly from the mean were excluded to minimise the impact of data distribution biases on the analytical results. Furthermore, only households with expenditure on their children's education were retained. The data were weighted according to the sampling weights provided by the CFPS in the analysis to eliminate sampling bias and improve the sample representativeness at the national level so that the sample demographic structure and geographical distribution were consistent with the national population. After these adjustments, a total of 10,378 valid household samples were collected, representing diverse income levels, educational backgrounds, and household types, thus laying a firm basis for subsequent empirical analysis.

## 2.2 Research Methods

Latent Profile Analysis (LPA) and Latent Class Analysis (LCA) are both individual-centred analytical methods. The models corresponding to each are latent class models. These models posit that a latent class variable exists. This variable causes individuals to differ in their responses to test items. Different individuals can be categorised into different classes based on their differing response patterns. LPA and LCA follow broadly similar analytical procedures. The distinction is in the measurement items. The items in LPA must be continuous variables. They can also be items that can be reasonably converted into continuous scores. The items in LCA must be categorical variables.

Latent profile analysis has been widely applied in many fields. These fields include sociology, psychology and medicine. In sociology, it can be used to analyse the classification of social groups, patterns of social behaviour and differences in social attitudes. Populations can be categorised into different social classes, political orientations or consumer behaviour types by analysing social survey data. In psychology, it is used to identify different types of personality traits, psychological disorders or cognitive styles. Individuals can be categorised into different personality types through the analysis of a series of psychological measurement scales. These types include extroverts, introverts and neurotics. In medicine, it is used for the classification of disease subtypes, the identification of risk factors and the assessment of treatment efficacy.

By analysing data such as patients' clinical symptoms and laboratory test results, diseases can be categorised into different subtypes. This provides a basis for personalised treatment. The "profiles" in latent profile analysis refer to the identified latent categories. These categories explain the differing response patterns of the sample on manifest variables. They also explain the relationships between these manifest variables. Latent profile analysis is based on three assumptions. The first is mutual exclusivity among latent categories. The second is local independence of manifest variables. Originally correlated manifest variables become independent of one another after profiling. The third is normal distribution of manifest variables within each latent category. Latent profile analysis has the following steps. First, a latent profile category model is established. Typically, the number of latent categories is set to 1 initially for model estimation. Each subsequent increase of 1 represents a new category model. The maximum number of categories depends on interpretability and the research requirements. It generally does not exceed 6. Exceeding this limit may lead to model non-identification.

Step 2: Fit the model parameters. The parameters to estimate in a latent profile analysis are category probabilities and conditional means. Category probability is the percentage of people in a specific category as a proportion of the total population. Conditional mean is the average score of people in a certain category on each item of measure.

Step 3: Estimate the model fit indices. Model fit indices typically include the Pearson chi-square, the likelihood ratio chi-square, the log-likelihood (LL), the Akaike Information Criterion (AIC) based on the log-likelihood, the Bayesian Information Criterion (BIC), and the adjusted Bayesian Information Criterion (aBIC). There are also entropy, the Lo-Mendell-Rubin likelihood ratio test (LMRT), and the bootstrapped likelihood ratio test (BLRT).

Step 4: Model evaluation and selection. The metrics used for model evaluation are the information criteria AIC, BIC and aBIC; entropy; the p-values of the two likelihood ratio tests, LMRT and BLRT; and class probabilities. The lower the values of AIC, BIC and aBIC, the better the model fit. Entropy ranges from 0 to 1. Higher values indicate greater classification accuracy. A value exceeding 0.8 indicates that the model's classification accuracy exceeds 90 per cent. Significant results of the LMRT and BLRT ($p < 0.05$) indicate that the model with K categories fits the data better than the model with K–1 categories. A category probability below 5 per cent indicates that the number of individuals in that category is too small to be representative. The model for that category is not sufficiently valid.

Step 5: Naming the category models. The selected category models are further refined. The refinement is based on the performance of their mean values across various dimensions. Actual circumstances are also taken into account.

## 2.3 Variable Settings

The independent variable in this study is family development capacity. Based on the literature review on family development capacity presented earlier, the following specific indicators of family development capacity were adopted:

*Table 1: Development of Indicators for Family Development Capacity*

| Primary Indicator | Secondary Indicator | Tertiary Indicator |
|---|---|---|
| Family Development Capacity | Family Economic Development Capacity | Household Per Capita Income |
| | | Total Value of Cash and Deposits |
| | | Household Net Worth |
| | | Wage Income |
| | | After-Tax Pension Benefits Received |
| | Family Risk Response Capacity | Employment Ratio in Formal Sectors |
| | | Number of Family Members Covered by Medical Insurance |
| | | Number of Family Members Covered by Pension Insurance |
| | | Social Security |
| | Family Support Capacity | Human Capital Investment |
| | | Health Status of Family Members |
| | | Educational Attainment of Family Members |
| | | Current Housing Area |
| | | Current Housing Value |
| | | Marriage Satisfaction |

This study has two dependent variables: the burden of caring for the elderly and the burden of child-rearing. In this paper, the proportion of the population aged 60 and over within the total household population is used to measure the burden of caring for the elderly, whilst the proportion of children aged 19 and under within the total household population is used to measure the burden of child-rearing.

The classification of household development capacity was carried out using Mplus 8.3. Scores across three dimensions—household economic development capacity, household risk-coping capacity and household support capacity—were used as manifest variables to estimate a latent profile model of the characteristics of household development capacity.

## 2.4 Results of the Classification of Household Types

Data analysis primarily comprises three steps: firstly, constructing a latent profile model. As the categories of family development capacity were unclear, exploratory latent class analysis was employed, starting from an initial model (assuming all samples belonged to two latent classes) and gradually increasing the number of model classes until the optimal number of clusters was reached; secondly, selecting the optimal latent class model based on model fit indices; and finally, naming the classes according to their characteristics across the 15 indicators.

In Table 2, the values of both the LMR and BLRT are less than 0.01. The AIC, BIC and ABIC values are minimal for the four-category model. These values indicate the highest model fit. Both the MR-LRT and BLRT tests are significant. The current classification is significantly superior to the previous one. This supports its improvement over the three-category classification. Entropy was highest for both the two-class and four-class models. This indicates the most accurate classification results. The two-class results clearly did not reflect the actual situation. The five-class model passed statistical tests. Its key indicators deteriorated across the board. The AIC rose by over 5,000 units. The proportion of members in the two marginal groups was less than 10% in each. This shows overfitting. The probability distribution of categories in the four-category model is balanced and reasonable. It combines statistical rigour with theoretical interpretability. The four-category model was selected for analysis. Its model fit is reasonable and consistent with actual circumstances.

The classification of family development capacity was conducted using Mplus 8.3. Scores from three dimensions were used as manifest indicators. These dimensions are family economic development capacity, family risk coping capacity and family support capacity. The analysis estimated a latent profile model of the characteristics of family development capacity. The data analysis had three main steps. The first step was the construction of a latent profile model. The categories of family development capacity were unclear. Exploratory latent class analysis was employed. The analysis started with an initial model. This model assumed that all samples belonged to two latent classes. The number of model classes increased gradually. The process reached the optimal number of clusters. The second step was the selection of the optimal latent class model. The selection was based on model fit indices. The third step was the naming of the categories. They were named according to their characteristics across the 15 indicators.

*Table 2: Results of the fit tests for different potential profile models*

| Model | AIC | BIC | aBIC | Entropy | LMR-LRT | BLRT | Category Probability(%)(%) |
|---|---|---|---|---|---|---|---|
| 2-class | 637238.669 | 637572.051 | 637425.869 | 1.000 | <0.001 | <0.001 | 23.49/76.51 |
| 3-class | 622785.037 | 623234.379 | 623037.352 | 0.989 | <0.001 | <0.001 | 23.49/61.36/15.14 |
| 4-class | 602619.941 | 603185.241 | 602937.368 | 1.000 | <0.001 | <0.001 | 9.91/23.24/57.99/8.85 |
| 5-class | 607924.285 | 608605.545 | 608306.826 | 0.994 | <0.001 | <0.001 | 16.72/18.89/45.59/ 9.91/8.91 |

Note: Log(L), log-likelihood; AIC, Akaike Information Criterion; BIC, Bayesian Information Criterion; ABIC, sample-size-adjusted Bayesian Information Criterion; Entropy, entropy; LMR-LRT, likelihood ratio test statistic; BLRT, bootstrap-based likelihood ratio.

Table 3 shows the conditional probability tables for the fifteen items across the three potential profiles. The reasons for naming the household types are as follows.

Households in Category 1 show high levels on many indicators of economic capacity. Per capita household income is 10.754, total cash and savings 11.243, net household assets 12.899, the value of their current home 4.008, the floor area of their current home 32.513, and the educational attainment of household members 13.162. These figures are all relatively high. Households in this category have strong economic strength. They have accumulated significant wealth. They also show high participation and protection in risk management indicators. The number of household members enrolled in pension insurance is 1.505. The number enrolled in medical insurance is 2.16. These figures show that these households put pension and medical protection first for their members. Their overall level of social security is high. These households perform well in financial assets. They also maintain a high standard of social security. They have dual advantages in economic strength and social security. The first household type is named the “High-Asset, High-Security Household”.

The second category of households scores at a lower level on economic development capacity indicators. Per capita household income is 9.56, total cash and savings 10.554, net household assets 11.936, the current value of their home 3.21, the floor area of their current home 21.082, and the educational attainment of household members 7.132. These low figures show that this category of households faces poor economic circumstances. Their income sources are limited. Their wealth accumulation is minimal. Their housing conditions are substandard. In risk resilience indicators, their participation rates

and protection levels are also low. The number of household members enrolled in pension insurance is 1.157. The number enrolled in medical insurance is 1.596. These figures show insufficient investment in social security. The level of protection is low. These households rank low in financial assets and social security. The second household type is named "low-income, low-security households".

The third category of households ranks at a moderate level on economic development capacity indicators. Per capita household income is 10.089, total cash and savings 10.673, net household assets 12.044, current housing value 3.427, current housing area 27.976, and the educational attainment of household members 9.17. These figures are at a moderate level. Households in this category have a certain degree of economic strength and wealth accumulation. Their overall level remains relatively low. It falls short of the level of "high-asset, high-social-security" households. In risk resilience indicators, their investment in and coverage by social security schemes are at a moderate level. The number of household members enrolled in pension insurance is 1.369. The number enrolled in health insurance is 2.387. These households are at a moderate level in economic assets and social security. They are balanced in these areas. The third household type is named the "moderate-asset, moderate-security household".

The fourth category of households shows a high level of economic development capacity. Per capita household income is 10.323, total cash and savings 11.131, net household assets 12.92, current housing value 3.632, current housing area 24, and the educational attainment of household members 10.886. These figures are relatively high. Households in this category have strong economic strength and wealth accumulation. Their income level is high. In employment-related indicators, this category shows distinct characteristics of informal employment. The proportion of employment in the formal sector is only 0.449. This is far lower than in other categories. The employment patterns of these households are mainly in the informal sector. Their employment stability is relatively poor. These households have high incomes. They face certain risks in employment security. This reflects their unique characteristics in economic assets and employment security. The fourth household type is named "high-income, low-employment-security households". The distribution of potential profiles across the four household types shows the diverse characteristics of household development capacity.

*Table 3: Conditional probability table for the fifteen projects across the three potential cross-sections*

| Variable | 1-class | 2-class | 3-class | 4-class |
|---|---|---|---|---|
| Per capita household income | 10.754 | 9.56 | 10.089 | 10.323 |
| Total cash and savings | 11.243 | 10.554 | 10.673 | 11.131 |
| Household net worth | 12.899 | 11.936 | 12.044 | 12.92 |
| Investment in human capital | 8.817 | 8.768 | 8.758 | 8.864 |
| Value of current home | 4.008 | 3.21 | 3.427 | 3.632 |
| Earned income | 11.146 | 0.005 | 10.806 | 11.326 |
| Current home size | 32.513 | 21.082 | 27.976 | 24 |
| Marital satisfaction | 3.463 | 3.228 | 3.497 | 4.276 |
| Health status of household members | 3.212 | 2.76 | 3.198 | 3.217 |
| Proportion of employment in the formal sector | 1 | 0.001 | 0.001 | 0.449 |
| After-tax retirement income | 0.957 | 2.827 | 0.891 | 1.09 |
| Social security | 1.48 | 1.393 | 1.506 | 1.734 |
| Number of household members covered by pension insurance | 1.505 | 1.157 | 1.369 | 2.267 |
| Number of household members covered by health insurance | 2.16 | 1.596 | 2.387 | 3.398 |
| Educational attainment of household members | 13.162 | 7.132 | 9.17 | 10.886 |

## 3. Analysis of Empirical Findings

## 3.1 The Impact of Family Development Capacity on the Dual Burden of Caring for the Elderly and Raising Children

Table 4 Regression analysis results. The analysis looks at the correlation between the household's ability to develop and the burden of caring for elderly relatives and raising children.For the burden of supporting elderly relatives, the coefficient for low-income, low-security households is 0.457. It is significant at the 0.012 level. These households face a relatively heavy burden. The reason may be their low income and low level of social security. These make it difficult for them to effectively meet the needs of elderly relatives. The coefficient for households with medium assets and medium social security coverage is 0.033. It is significant at the 0.008 level. These households face some pressure from the elderly care burden. The pressure is relatively lighter than the pressure faced by low-income, low-social-security-coverage households. The coefficient for high-income households with low employment security is 0.008. It is not statistically significant. The high income of these households alleviates the burden of elderly care to some extent. The effect is not significant. Their employment security is insufficient.

For the burden of child-rearing, the coefficient for low-income, low-security households is –0.020. It is significant at the 0.009 level. These households may face some financial pressure in raising children. The impact is less severe than the impact of the elderly care burden. The coefficient for households with medium assets and medium security is 0.034. It is significant at the 0.007 level. These households are relatively stable in their child-rearing burden. They have a certain level of financial and security capacity to meet child-rearing needs. The coefficient for high-income households with low employment security is 0.029. It is significant at the 0.009 level. The high income of these households has a certain mitigating effect on their child-rearing burden. The effect is limited. Their employment security is insufficient.

The coefficient for urban–rural differences in the burden of supporting the elderly is –0.028. It is significant at the 0.006 level. The coefficient for the child-rearing burden is –0.014. It is significant at the 0.005 level. Urban households face a relatively lighter burden than rural households in supporting the elderly and in child-rearing. The reason may be better social security and economic resources in urban areas. The coefficient for regional differences in the burden of supporting the elderly is 0.027. It is significant at the 0.004 level. The coefficient for the child-rearing burden is –0.027. It is significant at the 0.003 level. The results may reflect the impact of regional differences in economic development and social security policies on the two burdens.

*Table 4: Empirical Analysis of the Impact of Family Development Capacity on the Dual Burden of Caring for the Elderly and Raising Children*

| | **The burden of elderly care** | **The burden of child-rearing** |
|---|---|---|
| Households with high assets and high levels of security | | |
| (used as the benchmark) | 0.457*** | -0.020** |
| Households with low income and low levels of security | (0.012) | (0.009) |
| | 0.033*** | 0.034*** |
| Households with medium assets and medium levels of security | (0.008) | (0.007) |
| | 0.008 | 0.029*** |
| Households with high income but low employment security | (0.010) | (0.009) |
| | -0.028*** | -0.014*** |
| Urban and rural | (0.006) | (0.005) |
| | 0.027*** | -0.027*** |
| | (0.004) | (0.003) |
| _cons | 0.086*** | 0.255*** |
| | (0.011) | (0.009) |

Note: * p<0.1, ** p<0.05, *** p<0.01

## 3.2 Heterogeneity Analysis

### 3.2.1 The Impact of Household Development Capacity on Educational Expenditure in Urban and Rural Areas

Table 5 shows the results of a heterogeneity analysis. The analysis examines the impact of household development capacity on the dual burden of caring for the elderly and raising children. The results are broken down by urban and rural areas.

For low-income, low-security households, the elderly care coefficient in urban areas is 0.484. It is significant at the 0.013 level. These households face a relatively heavy burden of caring for the elderly in urban areas. In rural areas, the coefficient is 0.414. It is significant at the 0.025 level. The burden is also relatively heavy for these households in rural areas. It is slightly lighter than the burden in urban areas.

For the child-rearing burden, the coefficient for the same households in urban areas is –0.025. It is significant at the 0.010 level. The child-rearing burden is relatively light for these households in urban areas. In rural areas, the coefficient is 0.007. It is not statistically significant. The child-rearing burden is not pronounced for these households in rural areas.

For households with medium assets and medium security, the elderly care coefficient in urban areas is 0.030. It is significant at the 0.012 level. The elderly care burden is moderate for these households in urban areas. In rural areas, the coefficient is 0.022. It is not statistically significant. The elderly care burden is not pronounced for these households in rural areas. The child-rearing coefficient in urban areas is 0.026. It is significant at the 0.008 level. The child-rearing burden is moderate for these households in urban areas. In rural areas, the child-rearing coefficient for households with medium assets and medium employment security is 0.064. It is significant at the 0.019 level. The child-rearing burden is relatively heavy for these households in rural areas.

For high-income, low-employment-security households, the elderly care coefficient in urban areas is 0.004. It is not statistically significant. The elderly care burden is negligible for these households in urban areas. In rural areas, the coefficient is 0.003. It is not statistically significant. The elderly care burden is negligible for these households in rural areas. The child-rearing coefficient in urban areas is 0.030. It is significant at the 0.012 level. The child-rearing burden is moderate for these households in urban areas. In rural areas, the coefficient is 0.046. It is significant at the 0.023 level. The child-rearing burden is relatively heavy for these households in rural areas.

The regional difference coefficients for the elderly care burden are 0.019 in urban areas and 0.035 in rural areas. Both are significant at the 0.005 level. The elderly care burden is lighter in urban areas than in rural areas. For the child-rearing burden, the regional difference coefficients are –0.027 in urban areas and –0.028 in rural areas. They are significant at the 0.004 level. The child-rearing burden is heavier in urban areas than in rural areas.

*Table 5: Heterogeneity Analysis*

| | **The burden of elderly care** | | **The burden of child-rearing** | |
|---|---|---|---|---|
| | **Urban** | **Rural** | **Urban** | **Rural** |
| Households with high assets and high levels of security (used as the benchmark) | 0.484*** | 0.414*** | -0.025** | 0.007 |
| | (0.013) | (0.025) | (0.010) | (0.020) |
| Households with low income and low levels of security | 0.030*** | 0.022 | 0.026*** | 0.064*** |
| | (0.012) | (0.024) | (0.008) | (0.019) |
| Households with medium assets and medium levels of security | 0.004 | 0.003 | 0.030** | 0.046** |
| | (0.016) | (0.028) | (0.012) | (0.023) |
| Households with high income but low employment security | 0.019*** | 0.035*** | -0.027*** | -0.028*** |
| | (0.005) | (0.005) | (0.004) | (0.004) |
| Region | 0.071*** | 0.086*** | 0.245*** | 0.230*** |
| | (0.015) | (0.025) | (0.011) | (0.020) |

Note: * p<0.1, ** p<0.05, *** p<0.01

## 4. Conclusions and Implications

The research results show that low-income families with less social security are under great pressure in the aspects of elderly care and child-rearing, and the pressure of elderly care is more obvious in urban areas, reflecting the major shortcomings of these families in financial resources and social security. The level of social security and assets in the household are moderate, and the burden of elderly care and child-rearing are relatively stable, but the burden of child-rearing are heavier in rural areas, which suggests that they have a certain degree of financial and social security capacity, but they face certain challenges in the rural child-rearing environment. The pressure of child-rearing, particularly in rural areas, is somewhat heavy, but the burden of elderly care is not very heavy for high-income households with low employment security.This suggests that although high income can alleviate the burden of child-rearing, insufficient employment security affects their stability. With regard to urban–rural disparities, urban households face a relatively lighter burden of elderly care but a relatively heavier burden of child-rearing, which may be related to the higher cost of living and demand for educational resources in urban areas; rural households, conversely, face a relatively heavier burden of elderly care but a relatively lighter burden of child-rearing, which may be linked to the lower cost of living and stronger family support networks in rural areas. Regional disparities are equally significant, with the level of economic development, social security policies and socio-cultural factors in different regions exerting varying degrees of influence on households' burdens of elderly care and child-rearing.

Based on the above research findings, targeted recommendations are proposed. For low-income households with inadequate social security, the government should increase financial assistance, raise the minimum living allowance standard, and expand the coverage of social insurance—particularly pension and medical insurance—whilst also providing vocational skills training to enhance family members' employability and income levels. For households with moderate assets and moderate social security, the government needs to optimise the allocation of educational resources in rural areas, strengthen the development of community-based elderly care and childcare facilities, and encourage families to plan their finances reasonably to increase savings and investment.The job security should be improved. Job security mechanism should be improved. Stable career development opportunities should be provided. Flexible employment and entrepreneurial opportunities should be encouraged for high-income households with low job security. Attention should also be given to the mental health of household members and the provision of appropriate services and counseling. At the city-country and regional level, the government should invest more in infrastructure and public services in the countryside. It should promote economic cooperation and sharing of resources between regions. It should drive the development of underdeveloped regions. It should raise their standards of social security and public services. It should make targeted policies based on different household types and regional needs. These policies should be effective and relevant.

## 5. Shortcomings and Limitations

This study achieved some results in identifying household types and analysing differences in the burden. It has several limitations. The first limitation is about the data sources. They may affect the generalisability of the findings. The CFPS data are highly representative and reliable. They are cross-sectional in nature. This limits their ability to capture dynamic changes. Future research could use longitudinal data or data from multiple sources. These data would provide a more comprehensive picture of long-term trends in household development capacity. The second limitation is about the variables selected. They are not comprehensive enough. The study measured the dual burden of caring for the elderly and raising children. Some non-economic factors were not considered enough. These factors include the mental health of household members and social support networks. They may have a significant impact on household development capacity.

## Funding

No

## Conflict of Interests

The authors declare that there is no conflict of interest regarding the publication of this paper.

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