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"Economic Burden" and "Parenting Experience": The Decision-making of Second Child Birth from the Perspectives of Actors and Observers

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Abstract: The phenomenon of low fertility rates has drawn high attention from provincial and municipal governments. Zhejiang Province, as a demonstration province for the "two advances," adheres to the requirement of "solid actions, leading the way, and standing at the forefront," responding to the national call and actively addressing the situation of low fertility rates. However, despite the continuous relaxation of the fertility policy, its overall effectiveness remains minimal. This study focuses on two key issues: economic conditions and parenting experience, with parenting experience including family care and childcare services. By employing data processing software such as SPSS and STATA to analyze the panel data from the China General Social Survey (CGSS), the study investigates the impact of economic income, family care, and childcare services on the fertility intentions of working women regarding the second child. To explore this core issue, this project aims to complete the following three parts of research: ① "Second Child Birth Decision-making from the Observer's Perspective," where respondents act as scenario characters to make decisions regarding second child birth in specific situations. ② "Second Child Birth Decision-making from the Actor's Perspective," where respondents make decisions regarding second child birth based on their own circumstances.

1. Introduction

1.1 Research Background and Significance

Since the 18th National Congress of the Communist Party of China, there have been significant changes in China's population situation, shifting from a trend of zero growth towards negative growth[1]. In 2016, China fully implemented the two-child policy to actively address the issue of declining birth rates. By 2017, the birth rate had risen to 13.57%; however, this positive trend did not continue, and the fertility rate plummeted in 2018[2]. Subsequent policies allowing for three children failed to rejuvenate the declining fertility rate overnight. The gradual relaxation of the fertility policy has brought about a decline in the fertility rate, so the academic community discusses the hot issue of fertility decision-making from the perspectives of human capital depreciation

expectation[3], housing experience[4] and intergenerational mobility[5].

The phenomenon of low fertility rate has aroused great attention of provincial and municipal governments. Zhejiang Province, as the "two leading" demonstration province, adheres to the requirements of "doing in practice, walking in the forefront, bravely standing at the forefront", responds to the call of the state, and actively responds to the current situation of low fertility. Despite the gradual relaxation of fertility policies, the overall effectiveness has been minimal. This study focuses on two issues: economic conditions and parenting experience, exploring factors influencing the fertility decision-making of reproductive-age individuals regarding the second child from the perspectives of actors and observers in the context of new era fertility support policies. This research aims to facilitate social policy adjustments by examining social values. It is beneficial for promoting a fertility-friendly environment, optimizing childcare service industry environments, and supporting the implementation of fertility policies.

Role theory (G.H. Mead) suggests that individuals' attitudes and behaviors are influenced by their social role status and societal role expectations. Thus, does the fertility decision-making of individuals in scenarios have reference significance? Behaviorism theory emphasizes that individuals only respond to environmental stimuli. Therefore, how do the fertility decisions of respondents in reality are influenced by economic conditions, family care, and childcare services? To address these questions, this study focuses on investigating the influence of economic burden and parenting experience factors from the perspectives of actors and observers, aiming to promote positive fertility decision-making among reproductive-age individuals by alleviating economic burden and improving parenting experience.

1.2 Research Hypotheses

At the micro-level, the rational fertility choice of individual actors is determined by fertility intentions. In existing studies on fertility decision-making, economic conditions are one of the most concerning influencing factors. The results of the 2017 National Fertility Status Sampling Survey show that the primary reason why reproductive-age women do not intend to have more children is "heavy economic burden"[6]. From the perspective of "rational individuals," when household economic income increases, parents are expected to have more children[7]; however, studies have shown that fertility intentions have a significant "U-shaped" curve relationship with the level of household per capita income. That is, as the level of household per capita income increases, fertility intentions initially decrease and then increase. When the household economic level transitions from low to medium, the economic income of family members is insufficient to support childcare costs (especially the cost of the second child)[8], so the tendency of family fertility decisions is to not have more children. When the household income level grows to a high level, the cost of raising children may no longer be an economic burden for parents, thus increasing the likelihood of family fertility decisions. Based on this, it is hypothesized in this study that Hypothesis 1: For families whose economic conditions are not transitioning from low to medium, the higher the income level, the more inclined the decision is towards having a second child.

Research indicates that whether parents can provide sufficient caregiving resources for the next generation is an important influencing factor in fertility decision-making [9]. Compared to the first child, the second child further occupies women's time and energy, increasing the negative impact on working women[10]. From the above background, if elders in the family can shoulder the responsibility of caring for the next generation, it will alleviate the concerns of 70% of families who are unwilling to have children due to lack of childcare. Therefore, in families where grandparents are healthy and capable, promoting intergenerational family caregiving is advocated and significantly effective[11]. Based on the above analysis, it is hypothesized in this study that

Hypothesis 2: Providing intergenerational family caregiving contributes to the formation of positive fertility decisions.

In addition to intergenerational family caregiving, reproductive-age individuals largely rely on childcare institutions for assistance[12]. Around the childcare needs of reproductive-age individuals, China has deployed a universal childcare service system (Program for Actively Coping with Aging Population and Childcare Construction Implementation Plan during the "14th Five-Year Plan" period, 2021), and subsequently proposed to strengthen the standardized management of infant and toddler childcare services (Public Service Planning during the "14th Five-Year Plan" period, 2022). Sufficient parenting service resources have to some extent increased the confidence of families in having a second child. Since parenting services cover a wide range, this paper selects childcare institutions as the research object. Childcare institutions can be divided into public and private ones, with different conditions and evaluations. Public kindergarten facilities, educational resources, and fee structures are generally better than private ones[13], so parents tend to prefer regular public educational institutions[14]. Based on the above analysis, it is hypothesized in this study that Hypothesis 3: Parenting service factors have a significant positive impact on fertility intentions, and low-priced high-quality childcare services can better guide reproductive-age individuals to make positive fertility decisions.

2. Research 1: "Second Child Birth Decision-making from the Observer's Perspective": Based on the CGSS 2021 Resident Questionnaire

2.1 Data Source

The data for this study comes from the China General Social Survey (CGSS) database, with a total of 2176 valid samples after excluding incomplete data. For the purpose of this study, the respondents' ages were restricted to 20-49 years old. While existing quantitative literature on fertility topics mostly retains reproductive-age women, considering the limitations of existing research, men were not excluded during the data cleaning process.

2.2 Variable Explanation

2.2.1 Desired Number of Children and Actual Number of Children

The desired number of children is measured by "If there were no policy restrictions, how many children would you like to have?" The actual number of children is measured by "How many children do you have?" The actual number of children in the CGSS database does not have direct data, so the number of sons and daughters needs to be added together.

2.2.2 Scenario-based Scale

In study 1, the scenario scale of "fertility intention" was selected for fertility decision. Respondents first read the set scenario conditions and then make decisions from a third-person perspective for the characters given in the scenario. The scale sets up three dimensions: economic conditions (annual family income of 50,000/150,000/500,000 RMB), family care (help from grandparents/self-care), and childcare services (low-priced public/low-priced private/high-priced). After combinations, a total of 18 scenario conditions are generated ("parenting experience" includes two aspects: "family care" and "childcare services"). Respondents, from the observer's perspective, rate "Under the above conditions, do you think Ms. Wang, aged 32, should have a second child?" using a Likert 5-point scale (1=strongly disagree, 5=strongly agree). The total average score is used, with higher scores indicating stronger intentions of respondents believing that Ms. Wang should

have a second child.

2.3 Results

2.3.1 Descriptive Statistics and Correlation Analysis

Table 1: Correlation matrix of each variable (N=2176)

Y: Should Ms. Wang have a second child?	1	2	3	4	5	6	7	8
1 Gender	-							
2 Age	0.027	-						
3 Area	0.016	-0.014	-					
4 Education	-.076**	-.435**	-.125**	-				
5 Economic conditions	-0.019	-0.02	-0.005	0.002	-			
6 Childcare services	0.023	.037*	-0.027	-0.02	0.006	-		
7 Family care	-0.006	0.005	-0.003	-0.001	-0.003	-0.018	-	
8 Y	-0.015	.144**	.061**	-.177**	.377**	.122**	.124**	-

Note: *** indicates p < .001, ** indicates p <.01, * indicates p < .05 (same below)

The correlation matrix, means, and standard deviations of each variable are presented in Table 1.

Based on the descriptive statistical analysis, it was found that among the respondents, females constituted a larger proportion, with the majority being between the ages of 30 and 39. As shown in the table, the higher the level of economic income ($r = .381$, $p < .01$), the more likely respondents were to have a stronger intention to make positive fertility decisions for Ms. Wang when grandparents provided intergenerational caregiving ($r = .123$, $p < .01$), and when low-priced high-quality childcare services were available ($r = .125$, $p < .01$).

2.3.2 Analysis of Main Effects and Interaction Effects

The Main effect and interaction effect of each variable are presented in Table 2.

The differences in the effects of economic conditions ($F(2, 15)=195.42$, $p=.00<0.05$), family care ($F(1,16)=39.981$, $p=.00<0.05$), and childcare services ($F(2,15)=29.055$, $p=.00<0.05$) on fertility decisions are all statistically significant. The main effects of the three independent variables are all significant, indicating that the means of each level of one independent variable differ significantly across all levels of the other two independent variables. For example, the significant main effect of economic conditions implies that there are significant differences among the three levels of economic conditions (50,000/150,000/500,000 RMB) when the other two variables are held constant. The same applies to family care and childcare services.

The interaction effect between economic conditions and childcare services is significant ($p=0.003<0.05$), indicating that the impact of childcare services on fertility decisions varies statistically depending on economic conditions.

Table 2: Main effect and interaction effect

Y: Should Ms. Wang have a second child?	III Class sum of squares	df	Mean square	F	sig
Modified model	1392.932a	21	66.33	45.367	.00
Intercept	509.41	1	509.41	348.413	.00
Gender	2.262	1	2.262	1.547	0.214
Age	49.229	1	49.229	33.67	.00
Area	12.289	1	12.289	8.405	0.004
Education	86.344	1	86.344	59.055	.00
Economic conditions	904.639	2	452.319	309.366	.00
Childcare services	135.626	2	67.813	46.381	.00
Family care	92.438	1	92.438	63.224	.00
Economic conditions*Childcare services	14.256	4	3.564	2.438	0.045
Family care*Childcare services	0.49	2	0.245	0.168	0.846
Economic conditions*Family care	0.1	2	0.05	0.034	0.967
Economic conditions*Childcare services*Family care	2.795	4	0.699	0.478	0.752
Error	4835.116	3307	1.462		

Note: a R-spuare = .224(▲ R-spuare = .219)

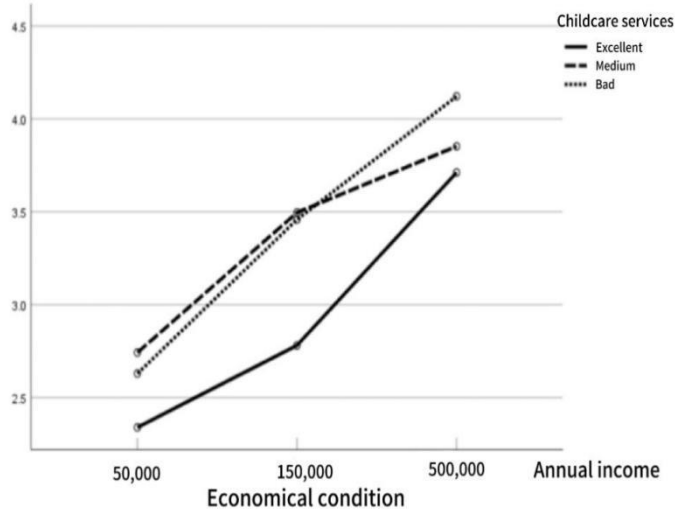

Figure 1: Estimated marginal mean of childcare services

Figure 1 shows that the estimated marginal mean of childcare services approaches a slope of nearly 1 when there are low-priced public childcare institutions near home. The likelihood of respondents making positive decisions is consistent with the changes in economic conditions.

Under the condition of low-priced private childcare institutions near home, the slope of the estimated marginal mean initially increases with the increase of economic conditions and then slows down. From the graph, it can be observed that under an annual income of 150,000 RMB, the slopes for both good and excellent economic conditions are very close. However, after an annual income of 150,000 RMB, the slope for good childcare services decreases.

Under the condition of low-priced private childcare institutions near home, the slope of the estimated marginal mean changes from gentle to steep. This indicates that families with lower

economic conditions have a lower likelihood of making positive fertility decisions due to inconvenient and expensive childcare services.

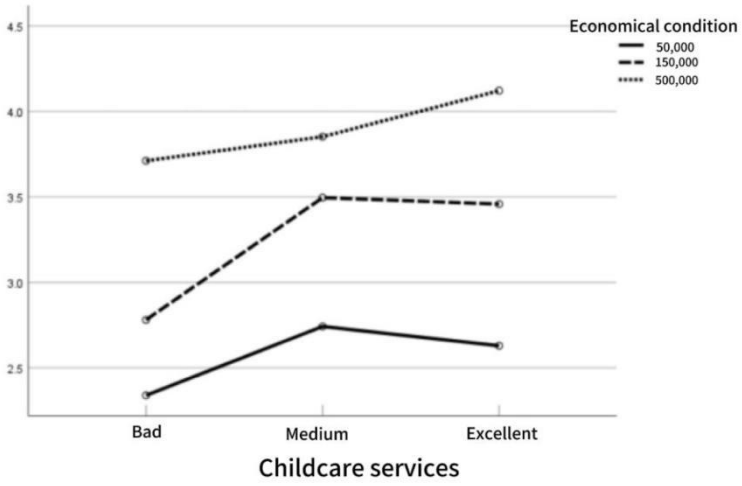

Figure 2: Estimated marginal mean of economic condition

From Figure 2, it can be observed that the estimated marginal mean of economic conditions shows little difference in fertility decisions under different childcare service conditions when the annual income is 50,000 and 500,000 RMB. However, when the annual income is 150,000 RMB, there is a significant difference in fertility decisions under different childcare service conditions. The degree of variation in fertility decisions influenced by different childcare conditions follows this order: families with an annual income of 150,000 RMB > families with an annual income of 50,000 RMB > families with an annual income of 500,000 RMB.

2.4 Conclusion

The results of Study 1 indicate that the fertility decisions made by respondents in scenarios roughly align with the three hypotheses, providing preliminary confirmation of the hypotheses. However, the perspective of observers cannot represent all individuals, and this study serves as weak inference for the hypotheses. Subsequent research intends to validate the influence of the three factors on fertility decisions based on individual circumstances.

3. Research 2:"Second Child Birth Decision-making from the perspective of the actor" : Based on the CFPS 2021 survey questionnair

3.1 Data Source

The data for this study is derived from the China Family Panel Studies (CFPS) 2021 public database. The decision-making process regarding second-child birth and related core variables are well represented in the questionnaire. In the data cleaning process, efforts were made to match individual responses with those of parents answering on behalf of minors. Samples were retained for individuals aged 19-49, representing the population of childbearing age. Samples with missing data or not meeting the requirements for other core variables were excluded, resulting in a final sample size of 1212.

3.2 Variable Explanation

3.2.1 Economic Conditions

In this study, the "total annual income from work (in RMB)" was selected to measure the economic status of respondents. This was calculated on a per household (family of three) basis by summing the annual incomes of respondents and their spouses, if applicable. To match the economic condition variable in Study 1, a three-point scoring system was employed (1=50,000 RMB, 2=150,000 RMB, 3=500,000 RMB), with higher virtual scores indicating higher total household income.

3.2.2 Family Care

Given the lack of explicit questions regarding intergenerational family care in the CFPS database, this study employed "frequency of intergenerational disagreements" as a proxy. Many families experience disagreements regarding child-rearing or care, and the frequency of these disagreements can indicate whether grandparents are involved in intergenerational care. The question was scored on a five-point scale (1=never, 2=rarely (once a month), 3=occasionally (once a week), 4=often (2-4 times a week), 5=very often (5-7 times a week)), though during data cleaning, samples involving level 5 (very often) were excluded, thus subsequent analyses will not involve this score.

3.2.3 Childcare Services

For the measurement of childcare services variables, based on the scenario settings in Study 1 (availability of low-priced public kindergarten nearby/only high-priced private kindergarten nearby/no kindergarten nearby), two items from the CFPS database were used: (1) whether the child attends school "locally" (1=yes, 0=no); (2) the type of kindergarten/preschool (1=private, 2=public). In the data processing stage, these two items were summed up, with 1=poor childcare service conditions (no kindergarten nearby, but a private kindergarten is available farther away), 2=good childcare service conditions (a high-priced private kindergarten nearby/a low-priced public kindergarten farther away), 3=excellent childcare service conditions (a low-priced public kindergarten nearby).

3.3 Results

3.3.1 Descriptive Statistics and Correlation Analysis

Table 3: Correlation analysis matrix of each variable (N=1212)

	1	2	3	4	5	6
1 Gender	-					
2 Age	-.206**	-				
3 Economic conditions	-.249**	.146**	-			
4 Family care	0.038	-.117**	0.053	-		
5 Childcare services	.071*	0.03	.067*	0.039	-	
6 Whether to have a second child	-0.001	-.084**	.087**	-.071*	.073*	-
M	1.74	31.75	1.94	1.69	2.09	.33
SD	.441	4.191	.717	.826	.802	.470

Note: *** indicates p < .001, ** indicates p <.01, * indicates p < .05 (same below)

The mean, standard deviation, and correlation matrix for each variable are presented in Table 3.

Based on descriptive statistical analysis, it was found that among the respondents, females accounted for a larger proportion, with the majority aged between 30 and 39 years. As shown in the table, a higher level of economic income was associated with a stronger inclination towards positive reproductive decisions regarding Ms. Wang ($r = .087$, $p < .01$). Additionally, the provision of intergenerational care by grandparents ($r = - .071$, $p < .01$) and the availability of high-quality childcare services at a lower cost ($r = .073$, $p < .01$) were also positively correlated with the tendency to endorse Ms. Wang's decision for a second child.

3.3.2 Binary logistics regression

Table 4: Binary logistics regression results

Y: Whether to have a second child?	B	SE	Wald	df	sig	Exp(B)
Economic conditions	0.126	0.059	4.579	1	0.032	1.134
Family care	-0.195	0.052	13.891	1	0	1.215
Childcare services	0.208	0.055	14.459	1	0	1.231
Constant	-1.746	0.198	77.635	1	0	0.174

The provision of intergenerational care, the enhancement of childcare services, and the improvement of economic conditions significantly increased the likelihood of professional women giving birth to a second child at a 5% level of statistical significance, as shown in Table 4. Regression coefficients indicate that the three variables exert different degrees of influence on reproductive decisions. Specifically, the coefficient for childcare services is greater than that for intergenerational care, which is in turn greater than that for economic conditions. This suggests that, from the perspective of the actors themselves, the decision to have a second child is more influenced by considerations related to childcare experiences after childbirth.The Regression model is presented in Equation (1).

$$\ln\left(\frac{p}{1-p}\right) = -1.746 + 0.126X_1 - 0.195X_2 + 0.208X_3 \quad (1)$$

(Note: p represents the probability of having a second child, while 1-p represents the probability of not having a second child.)

In this study, intergenerational care was measured through the frequency of intergenerational conflicts, with a negative coefficient (B). This indicates that the more intergenerational conflicts exist in family caregiving, the lower the likelihood of making a positive decision to have a second child. To some extent, this may be attributed to intergenerational cultural differences and the possibility of older generations being in a state of retirement[15]. Consequently, the involvement of older generations may increase the likelihood of intergenerational conflicts regarding childcare. Given the positive significance found in Study 1, it is evident that intergenerational care has a dual nature. Therefore, the childbearing-age population relies on government-provided childcare services, hoping that a child-friendly society created by the government can improve the childcare experience.

3.4 Conclusion

The results of Study 2 indicate that from the perspective of actors, the economic conditions, intergenerational care, and childcare services significantly influence reproductive decisions.

However, the regression coefficient for intergenerational care is negative. Therefore, Hypotheses 1 and 3 are confirmed from the perspective of actors, while Hypothesis 2 is not fully supported.

4. Conclusion and Recommendations

This study, utilizing data from the 2021 CGSS and 2020 CFPS, discusses the impact of economic conditions and childcare experiences on the reproductive decisions of childbearing-age groups. Childcare experiences are divided into intergenerational care provided by families and childcare services provided by the government and society. Study 1, from the perspective of observers, conducted survey experiments, and the results indicate that economic conditions, intergenerational care, and childcare services all have a positive impact on reproductive decisions. There exists an interaction effect between economic conditions and childcare services, suggesting that improvements in economic conditions increase the purchasing power of childbearing-age groups for childcare services provided by the outside world. Study 2, from the perspective of actors, reveals that intergenerational care has a significant inhibitory effect on reproductive decisions, while the influence of childcare services on reproductive decisions is more prominent. Therefore, excessive intergenerational care leading to childcare disputes inhibits the desire of childbearing-age groups to have a second child. On the other hand, high-quality and convenient childcare services alleviate the childcare burden for young people to a certain extent, allowing childbearing-age groups to have more autonomy during childcare, thereby promoting the formation of positive decisions.

Therefore, when implementing childcare service policies, it is essential to consider the effectiveness and convenience of policy implementation. Based on the findings of this study, the following two recommendations are proposed: First, future research can focus on the impact of childcare policies on the reproductive decisions of childbearing-age groups. Utilizing the PMC evaluation index system to evaluate existing childcare policies, effective policies should be retained and disseminated for learning, while ineffective policies should be revised promptly. Second, strengthen the performance evaluation of childcare services available on the market. The childcare industry is closely related to the country's population development and should consider the vulnerability of infants and young children, providing higher-quality services that are recognized by the majority of parent.

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