

The Impact of Education Costs on Family Fertility Rate in China

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ABSTRACT

According to the social report, the rate of fertility in China is around 1.65 continuously at a relative low level since 2000 [4]. Therefore, to find out the reasons behind the low fertility and encourage the childbearing couple to have children is of importance. To explore the reasons of low fertility, the author made a questionnaire among parents of children in Z city in central China. A total number of 200 questionnaires were issued, of which 194 were valid. According to research results, it is found that the learning cost and opportunity cost of education have a significant influence on parents' fertility intention. Therefore, the author put forward the following suggestions. Firstly, it is suggested that parents should be more rational on the investment in children's education. What is more, the investment in preschool education and child care allowances should be increased. In addition, both men and women should have maternity to take care of the new-born babies.

Keywords: *Education cost, opportunity cost, low fertility rate in China, questionnaire*

1. INTRODUCTION

According to social reports, since 2000, China's fertility rate has been about 1.65, which is a relatively low level [4]. The low fertility rate can cause social problems such as the aging of the population. According to reports, China's aging crisis has worsened. According to the United Nations (UN) standards, three provinces of China, namely Liaoning, Shanghai, and Chongqing, reached 14% in 2017, suggesting that they have entered a state of deep aging [5]. Therefore, how to increase the fertility rate to prevent a series of problems caused by aging has become a top priority. Actually, since 2000, China has gradually changed the family planning. Accordingly, families are allowed to have a second child. However, the number of new-born babies is not as large as expected. Thus, what hides behind the low fertility rate is the low fertility willingness. Under this background, the author will analysis the reasons behind the low fertility rate and

the corresponding low fertility willingness. The data involved in this paper are mainly collected from the questionnaire survey. In the process of the survey, 194 parents were randomly selected to conduct a questionnaire survey. A total of 200 questionnaires were issued and 200 were recovered, of which 194 were valid, with an effective recovery rate of 97%. This paper aims to provide people with suggestions and reference of this topic.

2. THE EMPIRICAL ANALYSIS

2.1. Basic information of the respondents

Table 1 shows the basic information of the parents who participated in the survey. The table includes several factors, including the relationship between the parents and their children, age, city, number of children they have had, etc.

Table 1 Basic information statistics

	Options	Frequency	The percentage (%)
Relationship	Father	38	19.6
	Mother	136	70.1
	Others	20	10.3
Age	under26	10	5.2
	26-30	76	39.2
	31-35	66	34.0
	36-40	38	19.6

	above40	4	2.1
Number of children	1	120	61.9
	2	72	37.1
	3or more	2	1.0
Total		194	100

Among the collected 194 valid questionnaires, the actual respondents included 38 fathers, accounting for 19.6% of the total; 136 mothers, accounting for 70.1% of the total; and only 20 respondents with other family relationships, accounting for 10.3% of the total. Respondents aged mainly concentrated in two ranges of age, which are 26 to 30 and 31 to 35, accounting for 39.2% and 34.0% respectively, and take up about 73.2% of the total number of investigation. It shows that respondents are mainly born after 1985 and 1990, who are generally young parents in the midst of the birth of the golden age, and fertility intentions survey has reference value to them. 120 respondents have only one child, taking up 61.9% of the total. 72 people have two children, accounting for 37.1% of the total. Only two respondents have three or more children, which only accounts for 1.0% of the total. Thus, it can be seen that almost two-thirds of respondents only have one child, suggesting that the random number of birth in a family is one child.

2.2. The impact of education costs on child-bearing

By looking up literature, the author analyzes the education costs from the following three perspectives, including family learning cost, family opportunity cost and family admission cost.

2.2.1. Home learning cost analysis

It can be seen from table 2 that survey of family per capita income level are mainly around three intervals of 1501-3000 yuan, 3001-4500 yuan and 4501-6000 yuan, accounted for 12.4%, 16.5% and 28.9% respectively. Overall, the families with per capita income in 3000 yuan or more have larger degree of freedom of choice in children education spending, and they have the ability to create a favorable learning environment for children.

Table 2 Statistical table of per capita monthly income of families

	Under1500	1501~3000	3001~4500	4501~6000	6001~7500	7501~9000	9001~10500	10501~12000	Above12000	Total
The percentage of monthly income per person (%)	0.0%	66.7%	68.8%	28.6%	44.4%	11.1%	25.0%	25.0%	23.1%	100%

2.2.2. Analysis on educational expenditure

As can be seen from table 3, 36.1% of families spend less than 20% of the total annual family expenditure on education, and 47.4% of families spend 20% of the total annual family expenditure on preschool education. 40% of 15.5% of families spend 40% of the total annual family expenditure on education, 60% of families even two families spend less than 60%. This shows that the families in the survey still spend a lot of money on children's education. There are 32 families whose

education expenditure accounts for more than 40% of the total annual expenditure. For them, the economic expenditure on children's education will become a heavy burden for the family. However, they can also be understood that as the idea of parental rearing children changed, they pay more and more attention to the child's education, so they are willing to spend money in every stage of education of children, even if the foundation of education need them to pay a lot of financial resources. Therefore, it can be seen that, compared with the number of children, parents are attaching much attention to the quality of the children.

Table 3 The ratio of the family's educational economic expenditure to the family's total annual expenditure for different children's education

		The proportion of total annual household expenditure				Total
		0%~20%	20%~40%	40%~60%	60%~80%	
	In families with only one child (%)<N=120)	43.3	40.0	16.7	0.0	100.0
The number of children	In families with two children (%)N=72)	25.0	58.3	13.9	2.8	100.0

In families with three children or more (%) (N=2)	0	100.0	0	0	100.0
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2.2.3. Family opportunity cost analysis

A multi-choice analysis on the problem of who takes more care of children showed that in most families, the mother was the primary caregiver, with 142 times of choice, accounting for 46.4% of the total. The influence of the traditional concept in China has lasted for a long time, that as men went out frequently, the father in a family played a more important role in the family

financial burdens, who were busy with work so they might have less time to accompany children. It is also reflected in table 4 that the "father" only has 46 times of choice, accounting for 15.0%, who is to be chosen with one of the lowest frequency. Apart from "mother" that accounts for the highest proportion, "grandparents", who is selected for 119 times, accounts for 38.8%, with more than twice of the percentage of "father", indicating that grandparents spend more time with their children than the father.

Table 4 Primary caregivers of children

		The response		Percentage of cases
		N	Percentage	
The child's primary caregiver	Father	46	15.0%	23.7%
	Mother	142	46.3%	73.2%
	Grandparents	119	38.8%	61.3%
Total		307	100%	158.2%

At present, a common social phenomenon in China is that the grandparents help to take care of the child. The main reason is that young parents are too busy with their jobs and livelihoods to take care of their young children around the clock, so grandparents start to take care of their children. As can be seen from table 5, "grandparents" is selected as the highest rate among the three options, with 79.3%, under the case that the parents do not sacrifice opportunity cost. Among the families that have a second child, "grandparents" and "father" were chosen at the same rate of 50.0%, which was also the highest without sacrificing opportunity cost. Only two families have three children or more, and both parents sacrifice their opportunity costs to care for their children.

To sum up, it shows that grandparents can help to take care of children to reduce the opportunity cost of parents' sacrifice to a certain extent.

At the same time, as also can be seen from table 5, 51.7% of families with one child have the experience of sacrificing opportunity cost. Seven percent of families who have a second child have sacrificed opportunity costs to have a child. Although there are only two families with three children in the sample, all family members sacrifice opportunity costs for the sake of having a child, and the proportion is 100.0%. It suggests that as the number of children increases, parents are more likely to sacrifice opportunity costs

Table 5 Whether parents sacrifice opportunity cost and proportion of families with different number of children and their primary caregivers

Number of children already born			The child's primary caregiver			Total
			Father	Mother	Grandparents or grandparents	
1 (N=120)	Parents sacrifice opportunity costs	Proportion of families having one child (%)	25.8	74.2	58.1	
		Proportion of total (%)	13.3	38.3	30.0	51.7
	Parents are not sacrificing opportunity costs	Proportion of families having one child (%)	31.0	58.6	79.3	
		Proportion of total (%)	15.0	28.3	38.3	48.3
	Total	Proportion of total (%)	28.3	66.7	68.3	100.0
2 (N=72)	Parents sacrifice opportunity costs	Proportion of families having one child (%)	12.5	79.2	37.5	
		Proportion of total (%)	8.3	52.8	25.0	66.7

	Parents are not sacrificing opportunity costs	Proportion of families having one child (%)	25.0	91.7	75.0	
		Proportion of total (%)	8.3	30.6	25.0	33.3
	Total	Proportion of total (%)	16.7	83.3	50.0	100.0
3or more (N=2)	Parents sacrifice opportunity costs	Proportion of families with more than three child(%)		100.0	50.0	
	Total	Proportion of total (%)		100.0	50.0	100.0

2.2.4. Cost of family on school district housing

It is commonly believed that the environment is a very important factor to impact people. In order to create a good learning environment for children, the ancient Meng’s mother moved three times. Currently, there are countless parents take out years of savings to buy expensive school district housing without hesitation, for letting children study in a primary or secondary school with good quality. Since the implementation of the policy of nearby enrollment in school districts, a series of problems of choosing a school have been derived, and the costs associated with them certainly become parts of the

expenditure of children's admission to school. According to the statistical results in table 6, among the families that have participated in the survey, 57.7% of the families have the plan or experience of buying a house in the school district for their children, and 32.0% of them have the plan or experience of renting a house with their children. In addition, 46.4% have the plan or experience of paying school choice fees for their children. Thus, it can be seen that the cost of children's entering school has become one of the education costs that cannot be ignored at present. Although it cannot be the main factor influencing parents' fertility intention, it also has a certain effect.

Table 6 Employment cost statistics table

Question		Frequency	Percentage	Effective percentage(%)
Whether there is a plan or experience for a child to go to good school to buy a house in the school district	Yes	112	57.7	57.7
	No	82	42.3	42.3
	Total	194	100.0	100.0
Whether have any plans or experience to rent and accompany to school	Yes	62	32.0	32.0
	No	132	68.0	68.0
	Total	194	100.0	100.0
Whether there is a plan or experience to pay school choice fees for the child	Yes	90	46.4	46.4
	No	104	53.6	53.6
	Total	194	100.0	100.0

3. RESULTS AND SUGGESTIONS

3.1. Results

3.1.1. High learning cost reduces parents' fertility desire

Nowadays, young parents pay more attention to their children's investment in preschool education and hope to give their children the best education. This is bound to increase the cost of family education and learning, and to a certain extent, to restrain parents' desire to have children.

3.1.2. Loss of opportunity cost weakens parents' fertility intention

Taking care of children is tedious, as it consumes time and energy, as well as causes some parents to sacrifice opportunity costs for child care. More than half of both families with one child and families with two children (or

more than one child) have the experience of sacrificing opportunity cost for the sake of rearing children, and the parents are more likely to sacrifice opportunity cost with the increase of the number of children. In a family where the mother is the primary caregiver for the child, the mother is more likely to be the child caregiver at the cost of opportunity in the family. With the increase of opportunity cost, parents' desire to have children is gradually weakening. The opportunity cost of parents' sacrifice will not only increase the financial burden of the family, but also disrupt the original career plan of the parents, which may lead to the loss of their personal job satisfaction.

3.1.3. Higher education costs have a weak impact on parents' fertility desire

Most parents expect their children to go to college, some even expect their children to get a master’s degree. Parents have high expectations for their children, so they will do their best to give their children a better education

at children's every stage of learning, which means that many parents pay a lot for their children to study in good schools and school admissions. However, pressure should not be the only main factor that affects people's reluctance to have children.

3.2. Suggestions

3.2.1. The government should play a leading role and increase investment in education

In the first place, the government should pay more attention to education, especially basic education, which is very significant for the development of children, so the government should improve the degree of attention to the education, and follow the strategy of developing the country by relying on science and education through the view of sustainable development. As a very important part of the education development plan, governments and departments at all levels should collaborate to cooperate and make common efforts for the realization of good development of preschool education.

Secondly, it is a good way to establish funds guarantee mechanism and standardize financial management. Government should invest more into education and increase education fiscal funds investment. Governments at all levels must conscientiously implement all financial support policies and take setting up special funds as the priority among different purposes. What is more, the regulation of the spending should be strengthened, and a mechanism for ensuring adequate funding for education should be established, in order to gradually achieve education financial management standardization in China.

Thirdly, it is necessary to improve the construction of teaching staff. With the development of education, the scale of schools is gradually expanding, which requires support from adequate amount of teachers. The construction of teaching staff means to expand the number of teachers and to improve the quality of teachers simultaneously. Improving the training of teachers' professional skills is also a key point that cannot be ignored by the government.

3.2.2. Improve the rationality of parents' investment in children's education

Although the investment of education cost can allow parents enjoy the educational benefits of the child even the whole family, the child does not stand for a simply investment product. The fact is that if the investment becomes higher, the return will also be higher. Therefore, parents should take a more rational view on this problem. When parents learn cost investment in children's education, they should comply with the laws of education investment and make up reasonable training plan in light of themselves, so that the loss caused by blind investment

cost could be reduced. It will also make some informal education institutions failed to seek profits and lose their development space. They will finally be eliminated from the market, which will create a good environment for the education market.

3.2.3. Family maternity leave shall be implemented

The implementation of maternity leave system in China has been discussed for a long time, which is mainly aimed at female employees. As a family unit, husband and wife should be entitled to maternity leave at the same time. Therefore, in recent years, most provinces and cities in China have adjusted and improved the maternity leave system to varying degrees, including maternity leave not only for female employees, but also paternity leave for their spouses. The average female worker's maternity leave is about 98 days, and her spouse's paternity leave is about 15 days. According to the research, the reasonable length of maternity leave has a positive impact on women's occupational loyalty.

4. CONCLUSION

In this paper, the author made a questionnaire and attained some data which were presented through tables. It can be seen that considering the expenditure on education, the family fertility rate is affected. In addition, the number of the child in a family has the impact on the parents' willing to sacrifice their opportunity costs. Based on the statistics, the author proposed pieces of suggestions such as advice for government and implementation of maternity leave so that in the future, there will be less pressure on parents as well as much better educational environment for children.

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