A STUDY ON THE FACTORS INFLUENCING THE FERTILITY INTENTION OF THE POPULATION IN SICHUAN PROVINCE, CHINA

HAI DONG HE

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS
IN PUBLIC MANAGEMENT INNOVATION
FACULTY OF LIBERAL ARTS
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
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Program	Public Management Innovation
Thesis Advisor	Assistant Professor Supit Boonlab, D.P.A.
Thesis Co-Advisor	Assistant Professor Sanitdech Jintana, Ph.D.
Academic Year	2023

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ABSTRACT

In response to the increasing population and changing social environment in China, a comprehensive policy of permitting two children or three children per family has been introduced to increase the birth rate. However, despite these efforts, the birth rate has continued to decline in recent years, as evidenced by statistics from 2018 to 2021. The research aim of this survey study was to investigate and analyze the factors that impact fertility intention in Sichuan province, China.

The population of Sichuan province was selected as the study sample. By reviewing existing research results, a hypothesis was proposed to determine the factors that affect the birth rate. A random sampling survey method was used, and an existing data analysis software was used to analyze the collected samples using methods, including reliability, validity, and linear regression. The analysis revealed that rearing costs, social welfare, career development, and social concepts significantly influenced fertility intention. Among these factors, career development, social beliefs, and social welfare emerged as important predictors of fertility intention with the highest value of descriptive statistics.

The findings indicated that there was a significant relationship between rearing cost, social welfare, career development, social concept, and fertility intention, thus achieving the research objectives. The results could be used as a reference for the government to develop public policies aimed at improving fertility intention and provide a research foundation for future studies.

Keywords: fertility intention, influencing factors, fertility policy

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HAIDONG HE

Contents

Contents (Cont.)

LIST OF TABLES

Page

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 Research Background

In recent years, China's population policy has undergone significant changes, from individual will to the unified formulation of family planning policies by the government, transitioning from encouraging family planning policies to strict control policies, and finally to relaxing family planning policies. Since the founding of the People's Republic of China, China's fertility policy has mainly gone through four major periods. Firstly, it encouraged fertility, while restricting birth control and induced abortion for those who met the fertility conditions. The second stage is the loose family planning stage. In this stage, advocates promote the policy of 'late birth, fewer births, and improved birth conditions. The third stage is strict family planning, implementing “one child” policy, “one and a half child” policy, and “two only children” policy. The fourth is to relax and encourage the family planning stage, starting from “single two children” to “comprehensive two children,” and then to “letting go of three children

According to the seventh national population census data in China, the family planning rate in China remained at a relatively low level from 2018 to 2021. Moreover, due to the failure of the comprehensive two children policy to meet expectations, the impact of the accumulation of family planning has gradually weakened. In 2020, the total number of births in the country decreased from 580,000 to 14.65 million, a decrease of 2.65 million or 18% compared to the figures in 2019. As the overall size of the national birth population decreased from 9.81 million to 5.93 million in 2018 and 2023. This indicates that over time, the family structure of the country has undergone significant changes, leading to a reduction in the overall size of the national birth population. Due to the decrease in the planned birth rate and the continued decline in the total number of

women of childbearing age, the current new birth rate is rapidly decreasing. It is estimated that the new birth rate before 2030 may reach 10 million.

Due to low fertility rate, reduced job opportunities, accelerated aging process, slower population growth trend, weakened population growth potential, and severe problem of remaining men, China is facing significant challenges.

The labor force in China is “aging before getting rich”, and the demographic dividend has disappeared. The population aged 15-64 is expected to significantly decrease by 23% in 2050 compared to 2020. In 2010, the population aged 15-64 reached its peak, and China has officially entered a more complex stage of aging. The aging population in China reached 13.5% in 2020, making the aging situation even more severe.

China is facing a severe aging problem. The proportion of the elderly population in the United States, Japan, and South Korea is as high as 13.5%, but their per capita Gross Domestic Product exceeds 25,000 US dollars, while China has only around 10,000 US dollars. With the intensification of population aging, the contradiction between social security income and expenditure is becoming increasingly prominent, and the pension gap will continue to expand. The total population of China has reached 1.41 billion, but it is expected that this number will continue to decline

Why not have children? Because doing so would weaken the foundation of fertility and increase the cost of childbirth. With the acceleration of social development, China's social problems such as late marriage and childbirth, single DINK households, and infertility are intensifying, leading to China's marriage rate reaching its peak in 2013 and then beginning to decline. The divorce rate also increased between 2013 and 2019, ultimately reaching 44%. In addition, due to the acceleration of social development, the problem of late marriage and late childbirth in China has become increasingly serious. Between 1990 and 2015, the average age of first childbirth increased from 24.1 to 26.3 years, and the typical age for first childbirth shifted from 20-27 years to 22-29 years. Due to changes in family, marriage, and social values, the number of “leftover women” is

increasing. Moreover, the prevalence of infertility and the emergence of DINK (Dual Income, No Kids) families are gradually increasing, and these factors are also impacting the foundation of fertility.

"Affordable, unable to support" indicates that the current fertility rate has been greatly affected by education, healthcare, housing, and other necessary economic expenses, as well as elderly care and other social responsibilities. In addition, due to government investment in education funds and policy restrictions, the enrollment rate of public kindergartens in China also significantly decreased from 95% to 44% between 1997 and 2019. Over time, between 1995 and 2018, people's medical expenses increased 27 times.

Figure 1.1 Birth rate from 1950 to 2021

From Figure1, the birth rate data of Sichuan Province, derived from the "2021 Sichuan Statistical Yearbook", (Sichuan Provincial Bureau of Statistics 2021) released by the Sichuan Provincial Bureau of Statistics shows the trend of Sichuan's birth rate from 1952 to 2020.

The birth rate in Sichuan Province has been on a downward trend in recent years, which is consistent with the continuous decline in China's birth rate. In recent years, the birth rate has continuously decreased, indicating the need to study the factors that affect fertility intention. Sichuan Province in China has a relatively large population, and research is universal. There are some studies related to the sustainable development of agriculture in Sichuan Province. In addition, Sichuan Province is a significant grain production and reserve base in western China, and its sustainable development in agriculture is an important foundation for the healthy development of the regional agricultural economy and food security (Vinh et al., 2020). The differences in regional economic development in Sichuan Province were proposed to serve as a reference for promoting the coordinated and healthy development of the regional economy in Sichuan Province, and to have certain reference significance for related research in other provinces (Cao & Sun, 2021). Moreover, one major factor is the rising costs of raising children, coupled with a lack of welfare provisions (Yu, 2023). Additionally, the one-child policy implemented in China from 1979 to 2015 has also contributed to a cultural shift away from large families (Bram, 2023). Some young Chinese people also express concerns about the impact of overpopulation on the environment and the economy (Yip, 2021).

Although the “restricted two-child policy” and “comprehensive three-child policy” have driven a certain upward trend in current fertility intentions, an increasing number of families are unwilling to have a second or third child. With the advancement of globalization, the costs of childbirth, upbringing, and education are constantly increasing, leading to increasing social pressure and causing many families to have the idea of “not daring or unwilling to have children”. To increase China's birth rate, this problem needs to be addressed. In this study, we focused on studying the costs of rearing children, social welfare, career development, and social attitudes to find ways to improve the fertility intention of the population in Sichuan Province, China, and providing a basis for the government to formulate public policies on fertility.

1.2 Research Questions

1.2.1 What are factors and fertility intention to have children in Sichuan Province?

1.2.2 How do the influencing factors impact fertility intention in Sichuan Province?

1.2.3 What is a model of factors that influence fertility intentions of the population in Sichuan?

1.3 Research Purposes

1.3.1 To investigate factors of fertility intention to have children in Sichuan Province.

1.3.2 To analyze the influencing factors that impact fertility intention in Sichuan Province.

1.3.3 To propose a model of factors that influence fertility intention of the population in Sichuan Province.

1.4 Scope of the Study

1.4.1 Research content: The research was to investigate the influencing factors of fertility intention in Sichuan Province, analyze the factors that affect fertility intention in Sichuan Province, and propose a model of factors that affect fertility intention of the population in Sichuan Province.

1.4.2 The research focuses on quantitative variables, including rearing costs, social welfare, career development, and social concept.

1.4.3 The research area. There are 21 cities in Sichuan Province, China, with a large population resulting in being unable to distribute questionnaires on site. Therefore,

a random online questionnaire distribution method was used as the sampling method in the study. The data collection period for fertility intention ranges from 1950 to 2021

1.4.4 Research subjects: Urban and rural residents aged 20-49 in Sichuan Province, China, as well as residents who are familiar with Sichuan Province.

1.5 Definition of Terms

1.5.1 Fertility intention refers to a possible indicator of a family's willingness to have another child based on various influencing factors. The factors such as rearing costs, family education, social welfare, medical security, and family culture all have an impact on fertility intention.

1.5.2 Rearing cost refers to the cost of pregnancy to childbirth for women and the cost of raising and educating children.

1.5.3 Social welfare refers to a social security policy adopted by the state and society to ensure and maintain a certain quality of life for members of society, meet their basic material and spiritual needs, and provide facilities and corresponding services.

1.5.4 Career development refers to the process of continuous and systematic planning for career and even life, which includes three elements: career positioning, goal setting, and channel design.

1.5.5 Social concept refers to the general cognition or opinions of various individuals that affect an individual's social attitude.

1.6 Delimitation and Limitations of This Study

1.6.1 Research definition

Research area or field: A study on fertility intention in Sichuan Province, China.

Research population: Urban and rural residents aged 20-49 in Sichuan Province, China, as well as those who have knowledge of fertility intentions in Sichuan Province, China.

Research objective: To identify the factors that affect fertility willingness in Sichuan Province, China, and establish a research model based on sample data analysis to influence fertility willingness.

1.6.2 Research limitations

Questionnaire survey: The hypothesis of influencing fertility intention is not yet comprehensive. For later researchers, other influencing factors can be further hypothesized.

Sample collection: Sichuan Province, China has a large population, and a city in Sichuan Province can be selected for careful analysis and research to reduce the number of research groups.

Research method: This study adopts a quantitative analysis method, which can use interview styles for national administrative authorities and some fertility groups, increase qualitative interview content, and improve the reliability of the study

1.7 Research Framework

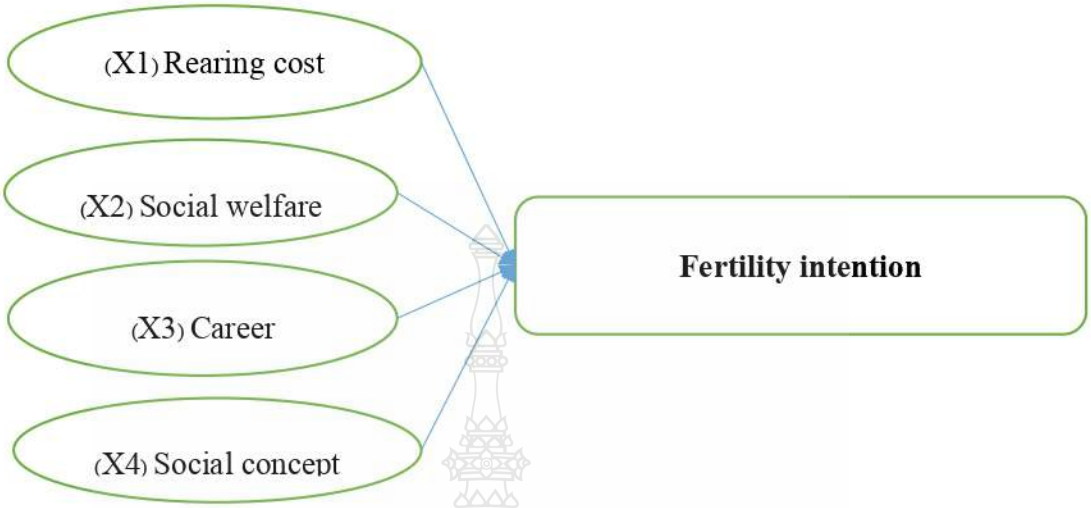

Figure 1.2 Research framework diagram

1.7.1 Research Hypotheses

H1: Rearing cost has a significant influence on fertility intention.

H2: Social welfare has a significant influenceon fertility intention.

H3: Career development has a significant influence on fertility intention.

H4: Social concept has a significant influence on fertility intention.

CHAPTER 2

LITERATURE REVIEW

2.1 Current Situation of Fertility Costs in China

The "cost of childbirth" covers various expenses from pregnancy to childbirth, while the "cost of childbirth" covers the expenses of upbringing and education. The "cost of childbirth" is the most important, and the "cost of childbirth" only accounts for a strongly small proportion.

In 2017, according to data on "heavy economic burden", "too old", and "no one has children", the proportions of "heavy economic burden", "too old", and "no one has children" were 77.4%, 45.6%, and 33.2%, respectively, indicating that the cost of childbirth plays a crucial role in determining a family's reproductive determination.

In 2019, the average cost of living for each household was calculated using information provided by the National Bureau of Statistics. This information includes the family's total income, total expenses, and total Cost of living. Based on this information, it can be inferred that the average living expenses of each household are 3019 USD. Based on our investigation and statistical analysis, we found that in China, the total cost of raising children aged 0-17 is approximately 67,927 USD, while the cost of raising children from birth to high school graduation reaches 87,815 USD.

Distinguished by income level:

Twenty percent of low-income families have an average cost of 12,240 USD in raising children aged 0-17; 60% of middle-income families spend an average of 55,322 USD raising children aged 0-17; and the average cost of raising children aged 0-17 for 20% of high-income families has reached 1.6 million USD.

Distinguished by the number of children in urban and rural households

the cost of raising a child aged 0-17 in urban areas is 88375 USD; in urban areas, families with two children spend an average of 69,607 USD per year on support for children aged 0-17; in urban areas, the average cost of raising a child in a triplet family aged 0-17 is as high as 52,801 USD. The cost of raising a child aged 0-17 in rural areas is 54,361 USD; in rural areas, the cost of raising children aged 0-17 is usually around 42,016 USD; In rural areas, the average cost of raising triplets aged 0-17 is 31,932 USD.

Internationally, the cost of raising a child to the age of 18 is 2.08 times that of Australia, 2.24 times that of France, 2.91 times that of Sweden, 3.64 times that of Germany, 4.11 times that of the United States, 4.26 times that of Japan, and 6.9 times that of China, which is almost the highest in the world.

Given the high cost of childbirth for Chinese people and the inability of women to balance family and career, the ideal number of children for Chinese people is far below the global average. According to data from the OECD, the ideal number of children in most countries around the world exceeds two, but the results of multiple fertility surveys indicate that the ideal number of children for Chinese people is still far below two.

Due to the improvement of living standards, the reproductive desire of couples of childbearing ages has been greatly enhanced, and behind this improvement, it is gradually forming, which urgently requires relevant support measures to be formulated in various regions.

2.2 Factors That Impact the Fertility Policy

2.2.1 Rearing cost

Rearing cost or the cost of rearing refers to the economic expenditure required to raise a child. This number depends on many factors, including region, household income, lifestyle, and educational choices. Each family's situation is different (Zhihua, Ruijun & Zhike, 2022). In the analysis based on the survey data of Wucheng

District in Xi'an City in 2019, it was found that the impact of rearing costs on the number of children planned for couples who have already had one child has significant heterogeneity. Aijun, Cuiling and Zhuo (2021) argue that there is a significant heterogeneity in the impact of parenting costs on the number of children planned for couples who have already had one child. Hong and Sijie's (2022) research on Guangdong Province shows that young women in households with higher income and rearing costs have lower fertility intentions; family economic conditions and rearing costs significantly affect young women's "unwillingness to have children".

2.2.2 Social welfare

Social welfare is an important component of social security, which is a social security policy adopted by the state and society to ensure and maintain a certain quality of life for social members, meet their basic material and spiritual needs, and provide facilities and corresponding services. Found that with the improvement of social welfare, the impact of working in the workplace and having an urban household registration on individual fertility intention tends to weaken. In the analysis of influencing factors on the willingness to have three children in the childbearing age population in 2022, "social welfare" did not pass the significance test and did not have a significant impact on the willingness to have three children (Jing, Z. & Hui, Y., 2022). Xiuhong's (2017) study found that China's current social welfare policies have a weak ability to "de commodify" and are insufficient to alleviate the economic pressure brought about by urban women having a second child, leading to a decrease in their willingness to have a second child.

2.2.3 Career development

Career development is a continuous and systematic process of planning one's career and even one's life, which includes three elements: career positioning, goal setting, and channel design. Different people have different career plans, which affect their willingness to have children. Hongxue (2017) found in a study on the willingness of professional women to have a second child that the higher the quality of their mothers, the lower their willingness to have a second child. Qian's (2017) study on the impact of the two-child policy on white-collar working women found that multiple career interruptions or interruptions during childbirth disrupt career coherence, affect the accumulation of professional capital, and lead to low fertility intentions. Shimiao (2017) found in a study on the influencing factors of second child childbirth choices among female university employees that the choice of second child childbirth among female university employees is mainly influenced by factors such as the nature of the job position and whether there is pressure to support the elderly.

2.2.4 Social concept

Social concept is a basic social psychological activity, and the formation of human social motivation or attitude, the progress of socialization process, and the occurrence of social behavior are all based on social concept. Wei's (2022) study on the impact of fertility policy cognition on women of childbearing age found that the content cognition, meaning cognition, and evaluation cognition of fertility policy will have a significant positive impact on women's fertility intention. Yalan's (2022) study on the mechanism of the public's impression evaluation and attribution of women with different fertility intentions indicates that women without fertility intentions hold implicit evaluations of negative enthusiasm positive abilities, while women with fertility intentions hold implicit evaluations of positive enthusiasm negative abilities. Xiaomin (2020) found in the impact and mechanism of education level on fertility intention that

an increase in education level will reduce the demand for "raising children and preventing aging", thereby reducing fertility intention; at the same time, the higher the level of education, the more open and inclusive the mindset, which to some extent also suppresses the desire to have children.

2.3 Fertility Intention Statistics

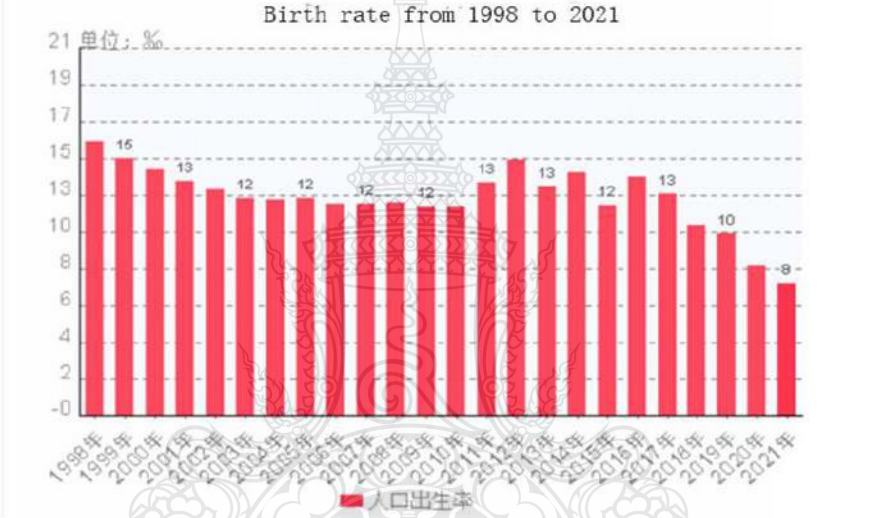

Figure 2.1 Fertility Intention Statistics of Chinese population, 1998-2021

Figure 2.4 shows that the birth rate of the Chinese population has decreased from 16% in 1998 to 12% in 2003. From 2003 to 2010, the birth rate remained basically at 12%. From 2011 to 2017, the birth rate slightly increased, and from 2018 to 2021, the birth rate showed a continuous downward trend. In 2021, the birth rate dropped to a historical low of 8%. It can be seen that China's birth rate has entered an important period, and a low birth rate will bring many social problems.

Figure 2.2 Fertility intention statistics of Sichuan Province from 2000 to 2021

Figure 2.5 shows that the birth rate of Sichuan Province in China decreased from 12.1% to 9% from 2000 to 2004. From 2005 to 2013, the birth rate remained around 9%, and from 2014 to 2019, the birth rate was about 11%. From 2020 to 2021, the birth rate directly decreased to a historical low of 6.85%, far below 8% of the national birth rate.

2.4 Literature Review

In the article, Low Fertility Intention under China's Three-child Policy and Its Policy Implications, Jun and Guangzhou (2022) analyze the problem from the macro level of total fertility rate indicator to the micro level of fertility intention of women or couples of childbearing ages. Xiaotian (2017) believes that most measures of fertility intention in China currently use the ideal number of children.

How to define fertility intention? Miller (2011) proposed a TDIB model from intention to behavior.

Miller (2011) improved the measurement method of fertility intention, modeled after the measurement method of fertility intention, and used a scale to measure fertility intention (the number of desired children). The TDIB model proposed by Miller expands

fertility intention to a motivational sequence of "fertility intention and fertility plan", which broadens the traditional methods for measuring and researching fertility intention and is worthy of serious reference.

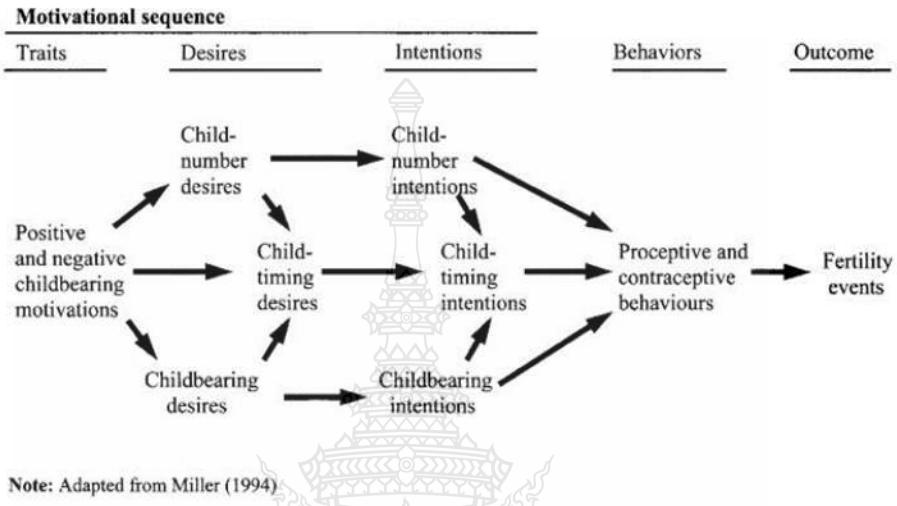

Figure 2.3 TDIB model (Miller, 2011)

According to the TDIB model, the occurrence sequence from fertility intention to behavior follows the sequence of "motivations --desires --intentions--intermediary behavior - reproductive outcomes". Among them, fertility intention, and fertility plan are the two stages of motivational sequence.

In the context of the implementation of the "comprehensive two-child, three-child policy", Jinju (2020) found that the fertility cost of urban women in China is lower in developed regions. Pei and Hongwei (2020) found that the rise in housing prices leads to delayed childbirth and a decrease in birth rate.

Longjian, Jianwei and Yanchao (2013) used the GMM estimation method to study whether government education expenditure has an impact on the birth rate. The results showed that in specific circumstances, government education expenditure may lead to a decrease in the birth rate of the population. Songchen and Shiying (2008)

analyzed the data from 31 provinces and found that population composition and income level are important factors affecting the birth rate. Jianwei (2014) explored the impact of three different factors on the birth rate and fertility rate, namely: economic status, social welfare level, and upbringing costs, all of which hurt the birth rate.

According to research, the country's fertility policy has brought positive changes to China's fertility intention. However, as the country's economic situation improves day by day, the degree of this change also begins to slow down, and social and environmental changes make this change more apparent. In the future, China's population pressure will continue to rise.After systematic analysis, we have found that some significant socio-economic factors can directly or indirectly affect people's decisions, which may improve our social environment and lead to more adverse consequences.

Based on existing research literature, this article selects variables that have a significant impact on the fertility intention that have been explored in existing literature as variables, adopts descriptive statistical methods, and conducts questionnaire surveys or sampling surveys to better understand these factors, and takes corresponding measures to summarize the main factors that affect fertility intention, to optimize fertility policies and increase fertility intentions.

2.5 Review Summary

Table 2.1 Review summary

Author & Year	Research review	Adaptation
Aijun,S., Cuiling,Z., & Zhuo,S. (2021)	Constraints and optimization suggestions on the cost of children's education on China's fertility willingness	Rearing costs Social welfare Career development Social concept Fertility intention
Bram, B. (2023)	*The last generation: why China's youth are deciding against having children Asia*	
Bongaarts, J. (2001)	Fertility and reproductive preferences in post-transitional societies	
Cao, Z., & Sun, Y. (2021)	Analysis on the differences of regional economic development in Sichuan Province.	
Cheng, E. (2021)	*China wants couples to have more kids Chinese people are less enthusiastic*	
Guobao, Z. (2017)	*Research on the Evolution and Impact of China's Family Planning Policy*	
Hong Xiumin, H & Sijie, Z. (2022)	Research on the Impact of Family Economic Conditions and Parenting Costs on the Willingness of Young Women to Have Three Children: Based on a Survey and Analysis in Guangdong Province	
Jianwei, L. (2014)	The influencing factors and development trends of China's Fertility Intention	

Table 2.1 Review summary **(Cont).**

Author & Year	Research review	Adaptation
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Cheng, E. (2021)	*China wants couples to have more kids Chinese people are less enthusiastic*	
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Jianwei, L. (2014)	The influencing factors and development trends of China's Fertility Intention	

CHAPTER 3

RESEARCH METHODS

The research methods used in this study include literature analysis and a questionnaire survey. Based on the analysis of the study, this chapter explores the factors that affect the fertility intention of people in China and Sichuan Province after the comprehensive opening of the second and third child policy.

3.1 Population and Sample Size

According to the results of the 7th National Population Census, the population of Sichuan Province was 8.37 million. According to the statistical requirements of the survey sample in Table 1, adapted from (Krejcie & Morgan, 1970), the sample size for this survey was determined to be 384. A total of 411 survey samples were collected through the Questionnaire Star website. The analysis through data analysis software demonstrated that the reliability coefficient value is 0.77, and the KMO value is 0.88. Simple linear regression was performed to assess the variables of rearing cost, social welfare, career development, and social concept, and the overall regression was statistically significant.

Due to the large population in Sichuan Province, this study used stratified random sampling and simple random sampling methods.

Additionally, an accidental sampling method was taken to select those participants in Sichuan province.

Table 3.1 Information adapted from Krejcie, R. and Morgan, D. (1970)

Universe	**Sample**	**Universe**	**Sample**	**Universe**	**Sample**	**Universe**	**Sample**
10	10	100	80	1,250	294	6,000	361
15	14	200	132	1,500	306	7,500	366
20	19	300	169	2,000	322	10,000	370
30	28	400	196	2,500	333	15,000	375
40	36	500	217	3,000	341	20,000	377
50	40	600	234	3,500	346	30,000	379
60	44	700	248	4,000	351	40,000	380
70	59	800	260	4,500	354	50,000	381
80	66	900	269	5,000	357	75,000	382
90	73	1,000	278	5,500	359	1,000,000	384

Table 3.2 Distribution and sample size of permanent population

No	Area	Population	Samples
1	Bathing City	2,712,894	8
2	Chengdu City	20,937,757	104
3	deyang	3,456,161	18
4	Leshan City	3,160,168	17
5	Luzhou City	4,254,149	20
6	Panzhihua City	1,212,203	2
7	Guang'an City	3,254,883	11
8	Suining City	2,814,196	9
9	Ya'an City	1,434,603	2
10	Yibin City	4,588,804	23
11	Aba Tibetan and Qiang Autonomous Prefecture	822,587	1
12	Dazhou City	5,385,422	32

Table 3.2 Distribution and sample size of permanent population (Continue)

No	Area	Population	Samples
13	Ganzi Tibetan Autonomous Prefecture	1,107,431	1
14	Guangyuan City	2,305,657	6
15	Liangshan Yi Autonomous Prefecture	4,858,359	24
16	Meishan City	2,955,219	12
17	Mianyang City	4,868,243	26
18	Zigong City	2,489,256	8
19	Neijiang City	3,140,678	15
20	Nanchong City	5,607,565	38
21	Ziyang City	2,308,631	7
	Total	83,674,866	384

3.2 Questionnaire

To investigate the factors influencing fertility intention, a structured questionnaire was designed in terms of rearing costs, social welfare, career development, and social concept. The survey questionnaire included background (gender, age, registered residence type, educational background, family's income level, Nature, marital status, Number of children, reproductive status age at which the respondent gave birth to her first child, current proportion, annual expenses during pregnancy, annual medical expenses), factors of fertility fntention (rearing cost, social welfare, career development, social concept), and fertility intention.

3.2.1 Reliability analysis

Data analysis software analysis technology is used to evaluate and confirm the accuracy and completeness of the provided questionnaires, as well as the consistency

with the actual situation, and ensure that the responses of the respondents do not conflict, thereby ensuring the reliability of the results.

Reliability analysis is used to measure whether the sample's answers are reliable, that is, whether the sample has actually answered scale items (reliability analysis is only for scale data, non-scale data generally does not undergo reliability analysis). Reliability analysis only focuses on quantitative data using Cronbach's alpha reliability coefficient. If the coefficient value is above 0.8, the reliability of the test or scale is strongly good. A reliability coefficient above 0.7 is acceptable. If it is above 0.6, the scale should be revised without losing its value. If it is below 0.6, the scale will need to be redesigned. The number of items is 28, and the sample size is 30. After using data analysis software, the sample for this studyhad a total Cronbach's alpha coefficient of 0.77, including rearing cost 0.57, social welfare 0.84, career development 0.94, social concept 0.21, and fertility intent 0.80. The KMO value is 0.88.

3.2.2 Validity analysis

After completing the survey questionnaire, the researcher submitted it to Assistant Professor Supit Boonlab, D.P.A, Assistant Professor Pattama Pasitpakakul, Ph.D., and Dr. Chaimonngkhon Supromin for comments and suggestions to improve the questionnaire questions.

3.3 Using Tools

3.3.1 According to the website of the National Bureau of Statistics (http://www.stats.gov.cn/), demographic data for analyzing the fertility intention situation is provided.

3.3.2 The researcher used the famous questionnaire survey website in China(https://www.wjx.cn/) to create the survey questionnaire and collected the data.

3.3.3 A detailed analysis of the collected data through the data analysis software, including but not limited to evaluating its reliability, effectiveness, relevance, and predictability.

3.3.4 The Excel software was used to create statistical data tables and data graphs.

3.3.5 The survey questionnaire was designed based on the purpose of this research.

3.4 Data Collection Process

This survey was conducted through the Questionnaire Star website (https://www.wjx.cn/), which was used to design, produce, and publish the survey questionnaire. After generating the QR code of the survey questionnaire, the QR code was randomly sent to participants through QQ groups, WeChat groups, websites, and other methods. A sampling survey was conducted on the family fertility intention in Sichuan Province, China, to ensure the universality and authenticity of the data, and to pay attention to the data and quality of the collected survey questionnaire. The quantity and quality of the collected survey questionnaire data was monitored at any time. If the number of collected survey questionnaire data was small or did not meet the survey questionnaire research purpose, it was necessary to further increase the scope of the survey questionnaire publication and then improve the quantity and quality of collected survey questionnaire data. The results of the sampling survey data could be exported to an Excel file format in the backend of the Questionnaire Star website, and the factors affecting family fertility intentions in Sichuan Province, China could be identified through data surveys. This survey covered various types of people aged between 20 and 49 in urban and rural areas of Sichuan Province, China.

3.5 Data Processing and Analysis

On the Questionnaire Star website(https://www.wjx.cn/), after designing, producing, and distributing the questionnaire survey, the collected data were exported to an Excel format file. The collected data were preliminarily filtered and classified, invalid data were deleted, and the data were saved in a format that could be used by the data analysis software.

3.5.1 Descriptive analysis

Forquantitative data, such as scale scores (strongly dissatisfied, dissatisfied, uncertain, satisfied, strongly satisfied, etc.), or values of height and weight, the concentration characteristics (mean) and volatility characteristics (standard deviation) of the data can be calculated through descriptive analysis. At the same time, the data analysis software system also provides maximum, minimum, and median values. Descriptive analysis is usually used to analyze the basic cognitive situation of scale data, using average values to express the overall attitude of the sample towards the scale data.

3.5.2 Regression analysis

Correlation analysis describes whether there is a relationship between the analysis items, regression analysis (linear regression analysis) studies the impact relationship, and regression analysis essentially studies the impact relationship between X (independent variable, usually quantitative data) and Y (dependent variable, quantitative data). Nevertheless, a correlation does not necessarily have a regression impact relationship.

Formula for calculating the level (Best, 1983)

$$\text{The interval from each} = \frac{\text{The highest score} - \text{The lowest score}}{\text{Level}}$$

$$= \frac{5 - 1}{5}$$

$$= 0.8$$

According to Best (1983), the data can be interpreted as the following:

A. 4. 21 - 5.00: The highest level.

B. 3.41 - 4.20: The high level.

C. 2.61 - 3.40: The medium level.

D. 1.81 - 2.60: The low level.

E. 1.00 - 1.80: The Lowest level.

3.5.3 Reliability and validity analysis

Table 3.3 Cronbach's alpha reliability analysis

	Statements	Cronbach α	Total Cronbach α
Rearing cost	1.Do you think you can withstand the financial pressure of each child's family? 2.Do you think the country should provide more help for strongly child born? 3.Do you think strongly child is born at the cost of sacrificing other children? 4.Do you think if you have children, you can bear the requirements of their education and companionship? 5.Do you think the country should provide equal maternity leave for strongly child born to both spouses?	Rearing cost 0.76	0.77
Social welfare	6.Do you think the country should reduce the medical burden and fully reimburse the costs of prenatal and infant examinations? 7.Do you think the country should expand the scope of special deduction for children in the special deduction of Personal income tax? 8.Do you think the country should promote educational equity and the supply of high-quality educational resources to reduce educational costs?	Social welfare 0.84	

Table 3.3 Cronbach's alpha reliability analysis (Cont).

	Statements	Cronbach α	Total Cronbach α
Career development	9.Do you think more protection should be provided for the work rights of women who give birth? 10.Do you think more publicity should be given to career development policies for women who give birth? 11.Do you think the professional status of women of childbearing age should be improved in your organization? 12.Do you think more jobs should be provided for women who give birth?	Career development 0.74	
Social concept	13.Do you think having children has increased your burden? 14.Do you think having children can support your retirement life? 15.Do you think having children can improve marital relationships?	Social concept 0.71	0.77
Fertility intention	16.Are you willing to have children? 17.Will the cost of childbirth and upbringing bring economic pressure to you? 18.Do you think the current prices of children's products are relatively high? 19.Do you think children's expenses in kindergarten are relatively high? 20.Is it difficult to find a childcare facility near the home or workplace?	Fertility intention 0.80	

Table 3.3 Cronbach's alpha reliability analysis (Cont).

	Statements	Cronbach α	Total Cronbach α
Fertility intention	21.Do you think the current maternity leave for women is not enough? 22.Do you think the current Three-child policy will have an impact on women's employment? 23.Based on your experience or observation, is there gender discrimination in the job market? 24.Do you think it will be more difficult to work after giving birth to a child? 25.Do you think having children will affect your career development? 26.Are you satisfied with the current policy of encouraging childbirth? 27.Do you wish the government to provide cash subsidies for childbirth and rearing? 28.Do you think the latest personal income tax policy regards infant care expenses as a special deduction item of personal income tax, and 140 USD is deducted per child per month?	Fertility intention 0.80	0.77
Number of items 28, sample size 30, Cronbach α coefficient 0.77.			

From Table 3.3, it can be seen that the reliability coefficient value is 0.77, which is greater than 0.7, indicating that the reliability quality of the research data is good.

For “α coefficient of deleted item”, the reliability coefficient does not increase significantly after any item is deleted, so the item should not be deleted.

CHAPTER 4

RESEARCH RESULTS

4.1 Sample Data

From Table 3.1 adapted from Krejcie, R. and Morgan, D. (1970), the sample size for this survey was determined to be 384. A total of 411 survey samples were collected through the Questionnaire Star website.

4.2 Basic Information

According to the data collected by the survey, 53.77% of the respondents were male, 22.87% were over the age of 40, 60.10% were urban participants, 70.07% had undergraduate education, 31.87% had an annual income ranging from 12,602-21,004 USD, 47.93% were enterprise employees, and 70.32% were married. Respondents having an only child accounted for 29.68%, unmarried people accounted for 29.68%, 53.04% of births between the ages of 26 and 30, respondents whose first child was a boy accounted for 41.68%, the cost of birth and rearing accounted for 21% - 40% of 48.18%, and the cost of 1,120-1,680 USD during pregnancy accounted for 27.49%, the annual expenses of children between 1 and 5 years old accounted for 24.57% of 1,120-1,680 USD, as shown in Table 4.1.

Table 4.1 Basic information of the survey respondents

Basic information	Frequency	%
1. Gender		
male	221	53.77
female	190	46.23

Table 4.1 Basic information of the survey respondents (Cont).

Basic information	Frequency	%
2. Age		
20-25 years old	92	22.38
26-30 years old	82	19.95
31-35 years old	78	18.98
36-40 years old	65	15.82
Over 40	94	22.87
3. Type of residence		
Village	164	39.90
City	247	60.10
4. Educational background		
High school and below	56	13.63
Junior college	31	7.54
Undergraduate course	288	70.07
Master's degree or above	36	8.76
5. Family's income level in the past year		
Less than 4,200 USD	45	10.95
4,200-11,202 USD	130	31.63
12,602-21,004 USD	131	31.87
21,004 USD and above	105	25.55
6. Occupation		
School student	42	10.22
Civil servants or people in public institutions	79	19.22
Enterprise employees	197	47.93
Freelancers	39	9.49

Table 4.1 Basic information of the survey respondents (Cont).

Basic information	Frequency	%
Peasants	5	1.22
Others	49	11.92
7. Marital status		
Married	289	70.32
Unmarried	122	29.68
8. Fertility status		
No married	122	29.68
No children	24	5.84
Have a child	180	43.80
Have two children	79	19.22
Have three or more children	6	1.46
9. First child		
Under 20 years old	21	5.11
21-25 years old	86	20.92
26-30 years old	218	53.04
31-35 years old	68	16.55
Age 36 and older	18	4.38
10. First child's gender		
No married	122	29.68
Boy	171	41.61
Girl	118	28.71
11. Percentage of your family's birth and support expenses		
Within 20%	77	18.73
21% - 40%.	198	48.18
41% - 60%.	84	20.44

Table 4.1 Basic information of the survey respondents (Cont).

Basic information	Frequency	%
61% - 80%.	42	10.22
81% - 100%.	10	2.43
12. Annual costs		
Less than 574 USD	42	10.22
574-1120 USD	92	22.38
1120-1680 USD	113	27.49
1680-2,240 USD	72	17.52
More than 2,240 USD	92	22.38
13. Annual cost 1-5 years old child		
Less than 574 USD	36	8.76
574-1,120 USD	73	17.76
1,120-1,680 USD	101	24.57
1,120-2,240 USD	73	17.76
More than 2,240 USD	128	31.1

1USD=7.14RMB

4.3 Descriptive Statistics of Variables

The contents of rearing cost, social welfare, career development and social concept scales were analyzed. The details are shown in Table 4.2.

Table 4.2 Basic indicators

	Statements	Average value	Standard deviation	Level
Rearing cost	1.Do you think you can withstand the financial pressure of each child's family?	3.39	1.27	medium
	2.Do you think the country should provide more help for strongly child born?	4.65	0.72	highest
	3.Do you think strongly child is born at the cost of sacrificing other children?	2.26	1.49	low
	4.Do you think if you have children, you can bear the requirements of their education and companionship?	3.84	1.13	high
Social welfare	5.Do you think the country should provide equal maternity leave for an strongly child born to both spouses?	4.65	0.72	highest
	6.Do you think the country should reduce the medical burden and fully reimburse the costs of prenatal and infant examinations?	4.69	0.66	highest
	7.Do you think the country should expand the scope of special deduction for children in the special deduction of Personal income tax?	4.43	1	highest

Table 4.2 Basic indicators (Cont).

	Statements	Average value	Standard deviation	Level
Social welfare	8.Do you think the country should promote educational equity and the supply of high-quality educational resources to reduce educational costs?	4.7	0.65	highest
Career development	9.Do you think more protection should be provided for the work rights of women who give birth?	4.69	0.61	highest
	10.Do you think more publicity should be given to career development policies for women who give birth?	4.55	0.76	highest
	11.Do you think the professional status of women of childbearing age should be improved in your organization?	4.42	0.92	highest
	12.Do you think more jobs should be provided for women who give birth?	4.48	0.88	highest
Social concept	13.Do you think having children has increased your burden?	3.77	1.31	high
	14.Do you think having children can support your retirement life?	2.53	1.35	low
	15.Do you think having children can improve marital relationships?	3.36	1.34	medium
	Total	4.03	0.99	high

As can be seen from Table 4.3, the data can be divided into four groups comprising highest, high, medium and low levels. Firstly, the highest group had the average value between 4.42 and 4.7, for the s high group level the average value between 3.77 and 3.88, the medium group had the average value between 3.36 and 3.34, the low group had the average value between 2.55 and 2.26.

The third highest level comprised: 1) Do you think the state should provide more protection for the working rights of women who give birth? (4.70), 2) Do you think the state should reduce the medical burden and fully reimburse prenatal and infant checkups? (4.69), and 3) Do you think the state should promote educational equity and supply of quality educational resources to lower education costs? (4.98)

High level group included: 1) Do you think having children has increased your burden? (3.77), and 2) Do you think if you have children, can you bear the requirements of their education and companionship? (3.83)

Medium level group included: 1) Do you think having children can improve marital relationships? (3.36), and 2) Do you think you can withstand the financial pressure of each child's family?(3.40)

Low level group included: 1) Do you think having children can support your retirement life? (2.55), and 2) Do you think strongly child is born at the cost of sacrificing other children? (2.26)

Table 4.3 Multiple regression analysis of fertility intention

Coefficients[a]						
Model	B	Beta	t	Sig.	Collinearity Tolerance	VIF
1 (Constant)	1.29		5.91	0.00		
Rearing cost	0.02	0.03	0.59	0.55	0.84	1.20
Social welfare	0.12	0.12	2.32	0.02	0.63	1.59
Career development	0.31	0.36	7.07	0.00	0.63	1.58
Social concept	0.21	0.33	7.49	0.00	0.87	1.15

a. Dependent Variable: Fertility intention

$R=0.57^a$ $R^2=0.32$ $Adj.R^2=0.32$ $\Delta R^2=0.32$

Table 4.4 Model summary and ANOVA[a] of fertility intention

Model Summary[b] and ANOVA[a]						
Model	Std. Error of the Estimate	R Square Change	F Change	df	Sig. F Change	Sum of Squares
1	0.45	0.32	47.87***	4,406	0.000	39.38

a. Predictors: (Constant), social concept, career development, rearing cost, social welfare

b. Dependent variable: Fertility intention

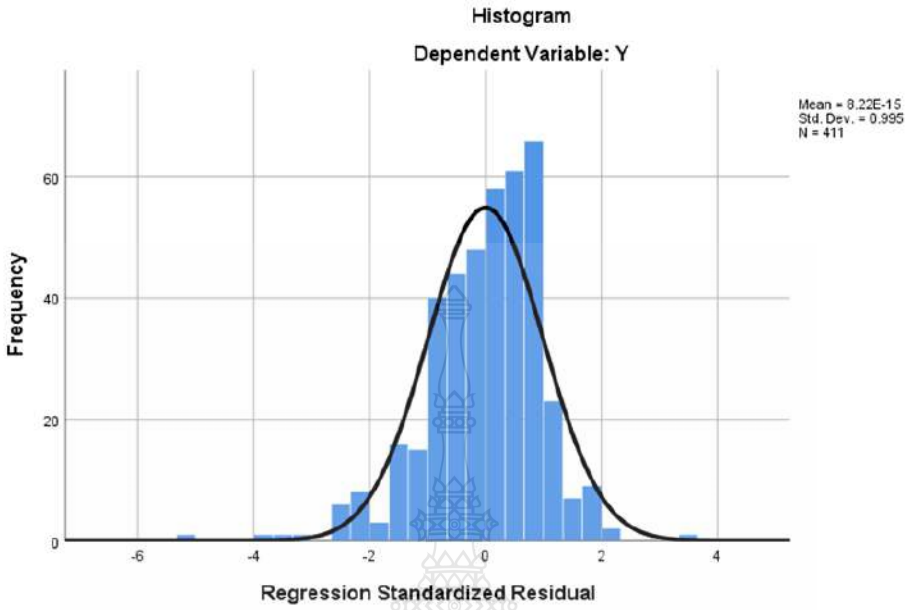

Figure 4.1 Analysis Histogram

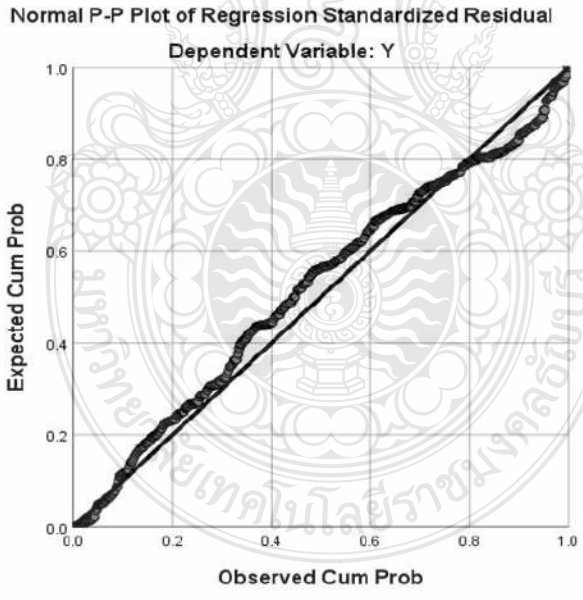

Figure 4.2 Analysis of Normal P-P Plot for Regression Standardized Residual

Due to the result of fertility intention as shown in Tables 4.3 and 4.4 above, multiple linear regression was calculated to test based on the fertility intention. The fitted regression model was: Fertility intention = 1.29 + 0.18*X2+X3*0.31+X4*0.21.

The overall regression was statistically significant (R2= 0.32, F (4, 406) = 47.87, p <0.000).

It was found that the social concepts of social welfare and career development significantly predicted fertility intention (β = 0.12, β = 0.36, β = 0.33, p < 0.000). Table 4.5 Coefficients analysis result of social welfare to fertility intention.

Table 4.5 Coefficients analysis result of social welfare to fertility intention

Coefficients [a]						
Model	B	Beta	t	Sig.	Collinearity Tolerance	VIF
1 (Constant)	2.34		10.50	0.00		
1.Do you think the country should provide equal maternity leave for eStrongly child born to both spouses?	0.02	0.03	0.54	0.59	0.66	1.51
2.Do you think the country should reduce the medical burden and fully reimburse the costs of prenatal and infant examinations?	0.17	0.20	3.30	0.00	0.58	1.73
3.Do you think the country should expand the scope of special deduction for children in the special deduction of personal income tax?	0.08	0.14	2.82	0.01	0.83	1.20

Table 4.5 Coefficients analysis result of social welfare to fertility intention (Cont).

Model	B	Beta	t	Sig.	Collinearity Tolerance	VIF
4.Do you think the country should promote educational equity and the supply of high-quality educational resources to reduce educational costs?	0.09	0.11	2.05	0.04	0.75	1.34

a. Dependent Variable: Fertility intention

$R=0.37^a$ $R^2=0.14$ Adj.$R^2=0.13$ $\Delta R^2=0.14$ $\Delta F=17.08$

Table 4.6 Model summary and ANOVA[a] of social welfare

Model Summary[b] and ANOVA[a]						
Model	Std. Error of the Estimate	R Square Change	F Change	df	Sig. F Change	Sum of Squares
1	0.51	0.14	16.08***	4,406	0.000	16.80

a. Predictors: (Constant), 4) Do you think the country should promote educational equity and the supply of high-quality educational resources to reduce educational costs?, 3)Do you think the country should expand the scope of special deduction for children in the special deduction of Personal income tax?, 1)Do you think the country should provide equal maternity leave for eStrongly child born to both spouses?, 2)Do you think the country should reduce the medical burden and fully reimburse the costs of prenatal and infant examinations?

b. Dependent Variable: Fertility intention

Dependent variable: Fertility intention

Predictors (Constant): Social welfare

Due to the result of social welfare to fertility intention as shown in Tables 4.5 and 4.6 above. Simple linear regression was calculated to test based on the social welfare. The fitted regression model was: Fertility intention = 2.34 + 0.17* Social welfare 2+0.08* Social welfare 3+0.09* Social welfare 4.

The overall regression was statistically significant (R2= 0.14, F (4, 406) = 16.08, p <0.000).

It was found that social welfare 2, social welfare 3, and social welfare 4, significantly predicted fertility intention (β = 0.20, β = 0.14, β =0.11, p < 0.000).

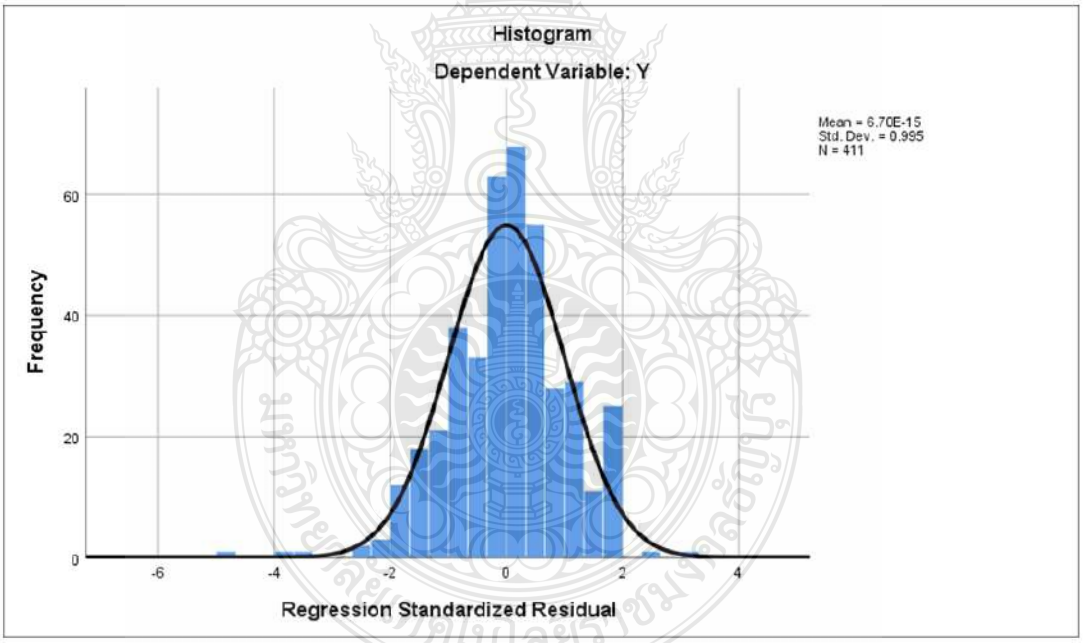

Figure 4.3 Social welfare impact analyses Histogram

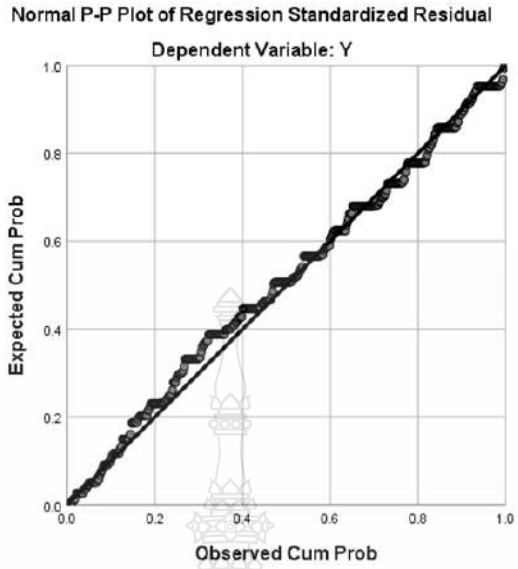

Figure 4.4 Social welfare impact analyses Normal P-P Plot of Regression Standardized

Table 4.7 Coefficients analysis result of career development to fertility intention

Coefficients [a]						
Model	B	Beta	t	Sig.	Collinearity Tolerance	VIF
1 (Constant)	2.30		11.66	0.00		
1.Do you think more protection should be provided for the work rights of women who give birth?	0.09	0.11	1.88	0.06	0.62	1.60
2.Do you think more publicity should be given to career development policies for women who give birth?	0.08	0.12	2.04	0.04	0.60	1.68
3.Do you think the professional status of women of childbearing age should be improved in your organization?	0.09	0.16	2.73	0.01	0.59	1.70

Table 4.7 Coefficients analysis result of career development to fertility intention (Cont).

Model	B	Beta	t	Sig.	Collinearity Tolerance	VIF
4.Do you think more jobs should be provided for women who give birth?	0.10	0.17	2.85	0.00	0.59	1.69

a. Dependent Variable: Fertility intention

R=0.44[a] R^2=0.19 Adj.R^2=0.18 ΔR^2=0.19 ΔF=24.06

Table 4.8 Model summary and ANOVA[a] of career development

Model Summary[b]						
Model	Std. Error of the Estimate	R Square Change	F Change	df	Sig. F Change	Sum of Squares
1	0.49	0.19	24.06***	4,406	0.000	23.54

a. Predictors: (Constant), 4) Do you think more jobs should be provided for women who give birth? 1)Do you think more protection should be provided for the work rights of women who give birth?, 2)Do you think more publicity should be given to career development policies for women who give birth?, and 3)Do you think the professional status of women of childbearing age should be improved in your organization?

b. Dependent variable: Fertility intention

Dependent variable: Fertility intention

Predictors (Constant): Career development

Due to the result of Career development to fertility intention as shown in Tables 4.7 and 4.8 above, simple linear regression was calculated to test based on the career development. The fitted regression model was: Fertility intention = 2.30 + 0.08* +0.09* Career development 3 +0.10* Career development 4.

The overall regression was statistically significant (R2= 0.19, F (4, 406) = 24.06, p <0.000).

It was found that Career development 2, Career development 3, and Career development 4 significantly predicted fertility intention ($\beta = 0.12$, $\beta = 16$, $\beta = 17$, $p < 0.000$).

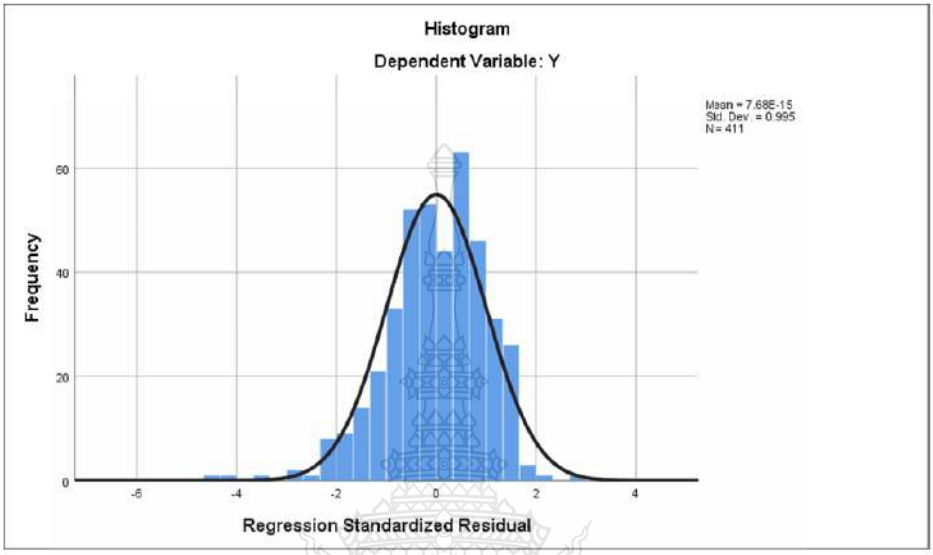

Figure 4.5 Career development impact analyis Histogram

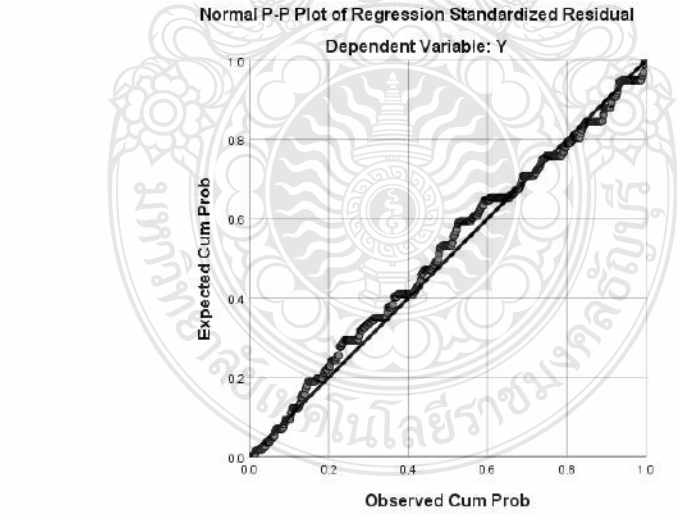

Figure 4.6 Career Development impact analysis Normal P-P Plot of Regression Standardized Residual

Table 4.9 Coefficients analysis result of social concept impact to fertility intention

Coefficients[a]						
Model	B	Beta	t	Sig.	Collinearity Tolerance	VIF
1 (Constant)	3.15		29.97	0.00		
1.Do you think having children has increased your burden?	0.15	0.36	7.80	0.00	0.99	1.01
2.Do you think having children can support your retirement life?	0.04	0.11	2.07	0.04	0.80	1.25
3.Do you think having children can improve marital relationships?	0.06	0.15	2.87	0.00	0.79	1.27

a. Dependent variable: Fertility intention

$R=0.40^a$ $R^2=0.16$ Adj.$R^2=0.15$ $\Delta R^2=0.16$ $\Delta F=25.97$

Table 4.10 Model summary and ANOVA[a] of social concept

Model Summary[b]						
Model	Std. Error of the Estimate	R Square Change	F Change	df1	Sig. F Change	Sum of Squares
1	0.50	0.16	25.97***	3,407	0.000	19.74

a. Predictors: (Constant), 3) Do you think having children can improve marital relationships?, 1) Do you think having children has increased your burden?, and 2)Do you think having children can support your retirement life?

b. Dependent Variable: Fertility intention

Dependent variable: Fertility Intention

Predictors (Constant): Social concept

Due to the result of social concept to fertility intention as shown in Tables 4.9 and 4.10 above, simple linear regression was calculated to test based on the social

concept. The fitted regression model was: Fertility intention = 3.15 + 0.15* Social concept 1 +0.04* Social concept 2 +0.06* Social concept 3.

The overall regression was statistically significant (R^2= 0.16, F (3, 407) = 25.97, p <0.000).

It was found that Social concept 1, Social concept 2, and Social concept 3 significantly predicted fertility intention (β = 0.36, β = 0.11, β = 0.15, p < 0.000).

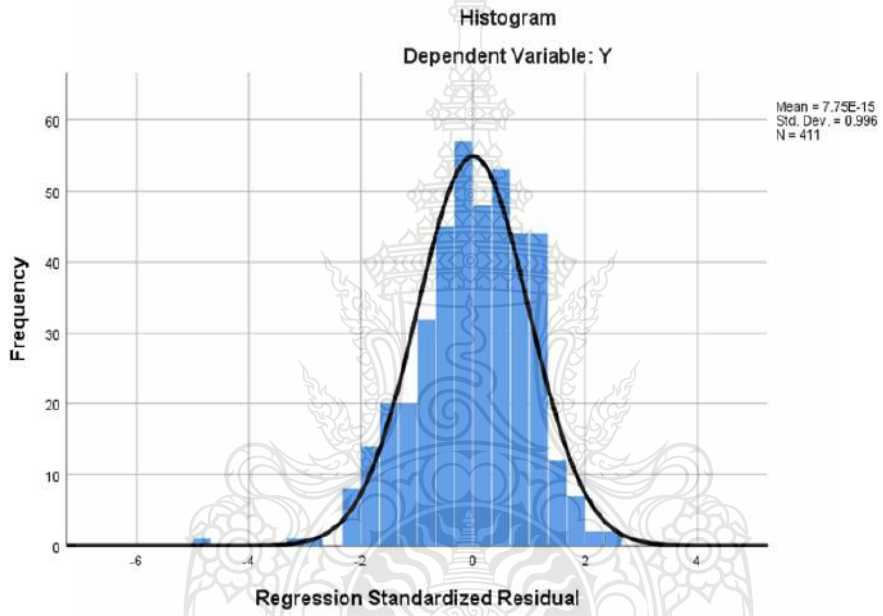

Figure 4.7 Social concept impact analysis histogram

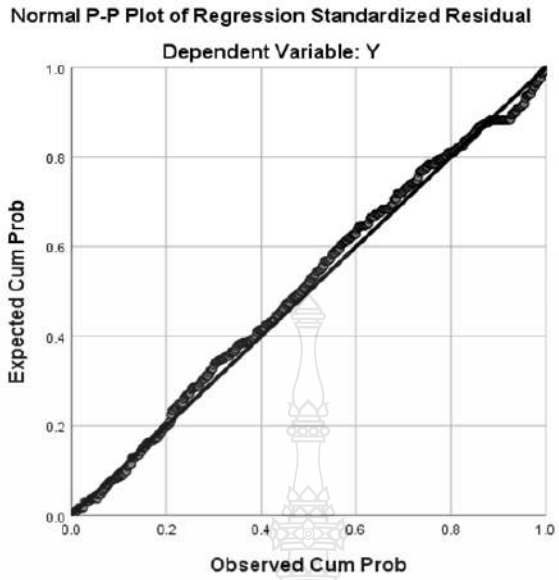

Figure 4.8 Social Concept Impact Analysis Normal P-P Plot of Regression Standardized Residual

Multiple regression analysis summary report

Using the stepwise multiple regression method to evaluate whether different dimensions (rearing cost, social welfare, career development, and social concept) that affect fertility intentions can predict influencing factors. From Tables 4.3 and 4.4, it can be seen that different dimensions （rearing cost (x1), social welfare (x2), career development (x3), and social concept (x4)) that affect fertility intention seem to be significant predictors of influencing factors (standard variables), with only three dimensions (career development (x3), social concept (x4), and social welfare (x2)) are considered significant predictors of influencing factors ($F(4,406)=47.87$, $p<0.01$). Moreover, considering the tolerance values, it can be concluded that career development (x3), social concept (x4), and social welfare (x2) have low levels of multicollinearity (tolerances of 0.63, 0.87, and 0.63) The multiple correlation of career development, social concept, and social welfare is $R=0.57$, accounting for 32% of the influencing factor scores.

From the standardization coefficient (β） , it can be clearly seen that career development (x3) has predictive power on the influencing factors of fertility intention (β= 0.36; P<0.01), with a contribution rate of approximately 19.2% to the influencing factors of fertility intention (ΔR^2=0.19, F(4,406)=24.06; P<0.01). This indicates that career development affects fertility intention.

Social concept (x4)

Social concept (x4) is considered the next important potential predictor of fertility intention (β=0. 33; P<0.01), with a contribution rate of approximately 16.1% (ΔR^2=0.16, F(3,407)=25.97; P<0.01). This means that when social awareness changes, it will affect fertility intention.

Social welfare (x2)

Similarly, social welfare (x2) further increases variance by 14%, leading to significant improvements in predictions (ΔR^2=.14, F(4,406)=16.08; P<0.01) and have a positive impact on the influencing factors of fertility intention (β=0.12; P<0.01). This means that good social welfare is beneficial for increasing fertility intention.

CHAPTER 5

DISCUSSION AND SUGGESTIONS

5.1 Summary

The study on the impact of fertility intention on the population of Sichuan Province in China is a quantitative research process, with the aims to: investigate factors of fertility intention to have children in Sichuan Province, 2) analyze the influencing factors that have an impact on fertility intention in Sichuan Province, and 3) propose a model of factors influencing fertility intention of the population in Sichuan Province.

The survey was conducted with 411 individuals residing in Sichuan Province, China. The questionnaire was validated for content validity and Cronbach's alpha reliability using 411 samples. The total value is 0.77, and fertility intent 0.80. The KMO value is 0.88.

The sample was filled out online by the respondents, directly scanning the questionnaire's QR code form. This method is more convenient for filling out and collecting statistical data than doing so face-to-face. The data analysis used descriptive statistics, reliability analysis, and linear regression analysis.5.1.1 Sample General Data

According to the data collected by the survey, 53.77% of the respondents were male, 22.87% were over the age of 40, 60.10% were urban participants, 70.07% had undergraduate education, 31.87% had an annual income of 12,602-21,004 USD, 47.93% were enterprise employees, and 70.32% were married. Families with only one child accounted for 29.68%, unmarried people accounted for 29.68%, 53.04% of births between the ages of 26 and 30, families where the first child was a boy accounted for 41.68%, The cost of childbirth and child-rearing accounted for a range of 21% to 40% of the total expenses, totaling 48.18%, and The cost of pregnancy, ranging from 1120 to 1680 USD, accounted for 27.49%. The annual expenses of children between 1 and 5 years

old accounted for 24.57% within the range of 1120 to 1680 USD.

5.1.2 Descriptive statistics of variables

The contents of rearing cost, social welfare, career development, and social concept scales were analyzed. These scales can be divided into four groups, namely highest, high, medium, and low levels. Firstly, the highest group had the average value between 4.42 and 4.7, for the high group level the average value between 3.77 and 3.83, the medium group had the average value between 3.363 and 3.389, and the low group had the average value between 2.53 and 2.26.

The third highest level comprised: 1) Do you think the state should provide more protection for the working rights of women who give birth? (4.70), 2) Do you think the state should reduce the medical burden and fully reimburse prenatal and infant checkups? (4.69), and 3) Do you think the state should promote educational equity and supply of quality educational resources to lower education costs? (4.98)

High level group included: 1) Do you think having children has increased your burden? (3.77), and 2) Do you think if you have children, can you bear the requirements of their education and companionship? (3.83)

Medium level group included: 1) Do you think having children can improve marital relationships? (3.36), and 2) Do you think you can withstand the financial pressure of each child's family? (3.40)

Low level group included: 1) Do you think having children can support your retirement life? (2.55), 2) Do you think eStrongly child is born at the cost of sacrificing other children? (2.26)

5.1.3 Research hypothesis testing

Figure 1. 1 Research hypothesis testing

Hypothesis	Test Result
H1: Rearing cost has a significant influence on fertility intention.	Denied
H2: Social welfare has a significance influence on fertility intention.	Accepted
H3: Career development has a significance influence on fertility	Accepted
H4: Social concept has a significance influence on fertility intention.	Accepted

5.2 Discussion

The results presented suggest that participants in the study have a relatively strong intention to have children, with a mean value of 4.01 for fertility intention. This finding is consistent with previous research that has shown that most people desire to have children at some point in their lives (Bongaarts, 2001; Lesthaeghe & Surkyn, 2002).

The relatively high mean values for social welfare and career development suggest that participants place a high value on these factors when making decisions about childbearing. This finding is consistent with the theory of the second demographic transition (SDT), which suggests that as societies become more developed and affluent, individuals may prioritize personal fulfillment and self-actualization over traditional family values (Lesthaeghe, 2010).

The lower mean value for rearing costs may reflect the fact that participants in the study perceive the cost of raising children as less of a barrier to childbearing than other factors. However, it is important to note that the standard deviation for this variable is relatively high, indicating that there is some variability in participants' responses. Previous research has shown that the cost of raising children can be a significant barrier to childbearing, particularly in countries with high levels of economic inequality (Bongaarts, 2001; Lesthaeghe, 2010).

The lower mean value for social concepts suggests that participants may place less emphasis on traditional family values and gender roles. This finding is consistent with research that has shown a shift away from traditional family structures and gender roles in many developed countries (Lesthaeghe & Surkyn, 2002).

The standard deviation values suggest that there is some variability in participants' responses for each variable, with the highest variability observed for social concepts. This suggests that participants have more diverse opinions and attitudes toward social concepts compared to the other variables.

Overall, these findings provide valuable insights into the factors that may influence fertility intentions among the study population and can inform the development of policies and interventions aimed at promoting or discouraging childbearing behaviors based on the identified factors.

Through the linear regression analysis of the samples, it is demonstrated that the hypothesis of the four factors affecting fertility exists in the relationship between the problem of rearing costs, social welfare, career development, social concept, and fertility intention. The research results of this study indicate that (Xianyu & Dangchen, 2019) under the context of the comprehensive two-child policy, family factors, female factors, and social factors are the main influencing factors for differences in fertility willingness and behavior.

The multiple regression analysis on the impact of fertility intention in Sichuan Province found that among the influencing factors, career development, social concept, and social welfare have regression effects. These three aspects can better explain the influencing factors, so the assumptions in these three aspects can better serve the second purpose of this study. This study further confirms the impact of (Yuye, 2021) family support on the fertility willingness of Sichuan women of childbearing age. Most women of childbearing age in Sichuan are unable to receive caregiving support from both parents. Based on this, this study proposes that the government should actively promote a

childcare service environment to alleviate the difficulties of family care. At the same time, the maternity leave system should be changed to increase the length of male paternity leave and promote spouse participation in family care. Additionally, the government should implement a family childcare allowance system to alleviate economic pressure on families.

5.3 Suggestions

Based on the reference literature and research hypotheses, combined with the data analysis of the survey questionnaire, the following suggestions are proposed for government departments.

5.3.1 Policy recommendations

To encourage childbearing and increase the willingness of families to have children, it is important to reduce the financial burden of raising children. One way to achieve this is by increasing government funding subsidies for families with children and providing more assistance to help alleviate the costs associated with child-rearing.

To promote family security and well-being, several measures can be implemented. Firstly, the cost of prenatal testing and childbirth should be reduced or fully reimbursed to ensure the overall health of infants and reduce the financial burden on families. Secondly, it is important to improve access to quality education by providing more free educational opportunities and excellent educational resources, thereby reducing the financial investment required by families. Finally, regulating taxation on childbearing families and introducing tax reductions as a form of childbirth welfare can also be effective in promoting family welfare.

It is essential to enhance career development and provide comprehensive support for women who have given birth. This includes strengthening workplace rights protection for postpartum women, implementing policies that promote their career

advancement, enhancing the professional status of women after childbirth, and ensuring employment security by providing additional guarantees. These measures aim to alleviate concerns and provide a worry-free environment for women who have given birth.

It is essential to enhance social awareness and advocate for fertility policies. In light of declining birth rates and the growing aging population, it is essential to raise public awareness that having children is no longer the sole means of supporting the elderly. Emphasizing the benefits of fertility, such as strengthening family relationships, and highlighting the improved social welfare support available can help alleviate concerns about the pressures associated with childbirth.

5.3.2 Implementation suggestions

This study focuses on fertility intentions within Sichuan Province, China. Future research can extend the scope of investigation to other regions to gain a more comprehensive understanding of population fertility. The factors identified in this study may have certain limitations, and additional research variables can be added to identify other factors that affect fertility intentions based on specific circumstances.

The scope of this study is in Sichuan Province, China. Other researchers can further study the fertility intentions of populations in other regions.

The factors that affect fertility in this study are not yet strongly comprehensive and have certain limitations. Other researchers can add more research based on specific situations to identify other factors that affect the population's fertility intention.

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APPENDIX

APPENDIX A

Questionnaire on Work Efficiency of Student Cadres of Hainan Tropical Ocean University

Dear Respondent,

We are a research team from Sichuan Province. The purpose of this survey is to understand the cost of family childbirth and upbringing in Sichuan Province, as well as your attitude and opinions on the existing policies that encourage having two or three children. This questionnaire is filled out anonymously, and the survey results are only used for statistical analysis and scientific research, without disclosing any personal information about you. Please provide us with your situation and thoughts as comprehensively and truthfully as possible. Thank you very for your participation and support.

Part I Background Information

1. What is your gender?

A. Male B. Female

2. What is your age?

A. 20-25 years old

B. 26-30 years old

C. 31-35 years old

D. 36-40 years old and above

3. Your registered residence type

A. Rural areas B. City

4. What is your educational background?

A. High school and below

B. Associate Bachelor

C. Undergraduate

D. Graduate degree or above

5. Your family's income level in the past year

A. Below 4200 USD

B. 4200USD-11202 USD

C. 12602-21004 USD

D. 21004 USD and above

6. Nature of your profession

A. On campus students

B. Civil servants or personnel of public institutions

C. Enterprise employees

D. Freelancers

E. Farmers

F. Others

7. Your marital status

A. Married B. Unmarried

8. Your reproductive status

A. No children

B. One child

C. Two children

D. Three or more children

9. Please specify the age at which you gave birth to your first child or, if you have no children, at what age you plan to have your first child.

A. Under 20 years old

B. 21-25 years old

C. 26-30 years old

D. 31-35 years old

E. 36 years old and above

10. What is the current proportion of your family's childbirth and upbringing expenses (including childbirth, childcare, and education) to your total household income?

A. 20% or less

B. 21% -40%

C. 41% -60%

D. 61% -80%

E. 81% -100%

11. What are your annual expenses during pregnancy (or your expected expenses) (such as nutrition, prenatal examination fees)

A. Below 574 USD

B. 574-1,120 USD

C. 1,120-1,680 USD

D. 1,680-2,240 USD

E. Above 2,240 USD

12. What is the annual medical expenses for your 1-5-year-old child (or your expected child) (only considering expenses beyond the reimbursement part of medical insurance)

A. Below 574 USD

B. 41-8,000 USD

C. 1,120-1,680 USD

D. 1,680-2,240 USD

E. Above 2,240 US

Table Part II factors of fertility intention

1 is strongly disagree, 2 is disagree, 3 is Uncertain, 4 is agree, 5 is strongly agree

type	Statements	Rating scale				
		1	2	3	4	5
Rearing cost	1.Do you think you can withstand the financial pressure of each child's family?	1	2	3	4	5
	2.Do you think the country should provide more help for eStrongly child born?	1	2	3	4	5
	3.Do you think eStrongly child is born at the cost of sacrificing other children?	1	2	3	4	5
	4.Do you think if you have children, can you bear the requirements of their education and companionship?	1	2	3	4	5
social welfare	1.Do you think the country should provide equal maternity leave for eStrongly child born to both spouses?	1	2	3	4	5
	2. Do you think the country should reduce the medical burden and fully reimburse the costs of prenatal and infant examinations	1	2	3	4	5
	3. Do you think the country should expand the scope of special deduction for children in the special deduction of personal income tax	1	2	3	4	5
	4.Do you think the country should promote educational equity and the supply of high-quality educational resources to reduce educational costs	1	2	3	4	5

type	Statements	Rating scale				
		1	2	3	4	5
Career development	1.Do you think more protection should be provided for the work rights of women giving birth?	1	2	3	4	5
	2.Do you think more publicity should be given to career development policies for women who give birth?	1	2	3	4	5
	3.Do you think the professional status of women of childbearing age should be improved in your organization?	1	2	3	4	5
	4.Do you think more jobs should be provided for women who give birth?	1	2	3	4	5
social concept	1.Do you think having children has increased your burden?	1	2	3	4	5
	2.Do you think having children can support your retirement life?	1	2	3	4	5
	3.Do you think having children can improve marital relationships?	1	2	3	4	5

Table Part III Fertility intention of questionnaire

1 is Strongly disagree, 2 is disagree, 3 is Uncertain，4 is agree,5 is Strongly agree

Statements	Rating scale				
	1	2	3	4	5
1. Are you willing to have children	1	2	3	4	5
2. Will childbirth and support costs bring economic pressure to you	1	2	3	4	5
3.Do you think the current prices of children's products are relatively high	1	2	3	4	5
4.Do you think children's expenses in kindergarten are relatively high	1	2	3	4	5
5. Is it difficult to find a guardianship institution for children under 3 years old at home or near the workplace	1	2	3	4	5
6. Do you think the current maternity leave for women is not enough	1	2	3	4	5
7.Do you think the current Three-child policy will have an impact on women's employment	1	2	3	4	5
8. Based on your experience or observation, is there gender discrimination in the job market	1	2	3	4	5
9.Do you think it will be more difficult to work after giving birth to a child	1	2	3	4	5
10.Do you think childbirth will affect your career development	1	2	3	4	5
11.Are you satisfied with the current policy of encouraging childbirth	1	2	3	4	5
12.Do you wish the government to provide cash subsidies for childbirth and rearing	1	2	3	4	5
13.Do you think the latest personal income tax policy regards infant care expenses as a special deduction item of personal income tax, and 140 USD is deducted per child per month?	1	2	3	4	5

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