Scientific
Research
Publishing

Investigation of Participants' Fertility Intentions under the "Three-Child" Policy in Guangxi Zhuang Autonomous Region, China

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Abstract

The objective of this study was to describe the fertility intentions and the possibility of having a third child of participants in Guangxi Zhuang Autonomous Region since the "three-child" policy was adopted in China and to explore factors associated with intentions to have a third child. This study was conducted among 1525 participants from five universities using a questionnaire from September to November 2021 in Guangxi, China. Data were collected on the student's sociodemographic characteristics and fertility intentions. A descriptive analysis, chi-square test, difference test and ordered logistic regression model were used for data analysis. The ideal number of children among the participants in Guangxi was 1.89 ± 0.52, and the average number of planned children was 1.49 ± 0.88. Although the policy encouraged having a third child, fewer than a tenth (5.5%) of participants clearly intended to. More than 15% (17.6%) of participants clearly intended not to have child. Compared with female participants, male participants had more planning number of child (P value = 0.003) and were more likely to have a third child (P value = 0.000). The earlier participants get married the more likely to have a third child (P value = 0.000). Compared with urban participants, rural participants were more likely to have first and second children (P value = 0.003), but there was no significant difference in the possibility of having three children. Participants show lower fertility intentions and less likely to have third child under the "Three-child" policy. More fertility intentions' researches and supplementary measures are urgently needed to improve fertility rates in China.

Keywords

Three-Child Policy, Fertility Intention, Third Child

1. Introduction

During the period from 2017 to 2021, the number of newly born babies in China reduced from 17.65 million to 10.62 million and the birth-rate dropped from 12.43‰ to 7.52‰ (Akimov et al., 2022). The proportion of working-age population in China dropped from 70.1% to 63.4% and the proportion of population over the age of 60 rose from 13.3% to 18.7% at the same time. Faced with the predicaments of low fertility rate and aging population's rapidly-increasing, the Chinese Government ended the 35-year one-child policy and implemented the "two-child alone policy" in November 2013. In October 2015, the Chinese Government further proposed the "universal two-child policy". However, the situation has not changed (Qiu et al., 2022). According to the seventh census results, China's total fertility rate was 1.3 in 2020 which broke its lowest fertility rate. China became the country with lowest-low fertility (China's 2020 Fertility and Adoption of a Three-Child Policy, 2021). China's birth rate continues to decline due to economic development, improved education level and the one-child policy. When the effect of the "universal two-child policy" appears to be subtle, the three-child policy was officially implemented in China on July 20, 2021, in order to raise fertility rate and ease downward pressure on the population.

Low fertility is a common predicament in many countries of today's world. In existing papers, the researches on fertility intention mainly focuses on two aspects: the meaning of fertility intention and the influencing factors of fertility intention of people of child-bearing age. In researches of meaning of fertility intention, different scholars have different views (Li & Jiang, 2019). The most representative view is the "three-dimension of fertility" theory (Li & Jiang, 2019). The three dimensions are fertility number, age of birth and gender preference. The level of child-likability usually included in China's researches (Zhuang et al., 2022). The fertility number is divided into ideal fertility number and planned fertility number (Hou et al., 2020). The ideal fertility number is the number of child they should have without considering their conditions and the planner fertility number is the actual demand of child with considering their conditions (Saikia et al., 2019). The age of birth is divided into marriage age and the time of birth first child. In order to see the influence of new policy, the investigation project of "three-child possibility" was added.

There are many factors affecting fertility intention, which can be summarized into three aspects: individual, family and society. Individual factors include age, gender, household registration type, income level, etc. The research found that females' fertility intentions was significantly lower than males' (Shreffler et al., 2016) and males preferred their child to be a girl while females preferred boy (Dhande & Shingare, 2016). The fertility intention of rural residents was significantly higher than urban residents (Mandel et al., 2021). And high-income groups tended to have more children (Shreffler et al., 2016). Family factors mainly include family structure, family environment, parental concept, etc. For example, compared with participants from only-child families, participants from non-

only-child families had younger age of birth and tend to have a boy (Rasoulzadeh Aghdam et al., 2020). The female participants from single parent family tended to not have a child (Rodriguez, 2013). Parents' gender preference also influenced the next generation (Tanskanen & Danielsbacka, 2020). Social culture exerts a profound impact on the concept of fertility. There is a traditional patriarchal society in China. Some parents prefer to boy under the influence of the idea of carrying on the family line (Zhou & Deng, 2019).

Although there is a discrepancy between fertility intentions and actual fertility, to a certain extent, the former can predict the latter (Hagewen & Morgan, 2005; Machiyama, 2019). Studies had shown that there was a certain difference between fertility intention and actual fertility for individuals, but for group, fertility intention was consistent with actual fertility (Amélie & Philip, 2003). Previous studies on fertility intentions had focused on young people in the context of "universal two-child policy" in China, it's not clear that whether the new policy would increase fertility rates. The number of Chinese college students is huge, and they are about to enter the period of marriage and child-bearing. The fertility intentions of this group indicate the future direction of population growth. Guangxi Zhuang Autonomous Region located in Southern China. As one of the five autonomous regions of ethnic minorities in China, its total GDP in 2020 ranks 19th and population ranks 11th, it's the middle-class among all provinces. This research analyses the fertility intentions and influencing factors among participants in Guangxi under the "Three-child" policy, and in order to comprehensively understand the current situation of college students' fertility intensions and provide reference for the implementation effect of policy.

2. Methods

2.1. Study Design

A cross-sectional survey of participants was conducted to collect sociodemographic information and fertility intentions.

2.2. Sample and Settings

This study was conducted in Guangxi Zhuang Autonomous Region from September to November 2021. Guangxi (hereinafter referred to as Gui) has a total of 38 colleges with 560,000 college students. According to the administrative division, the 14 cities in Gui can be divided into Northern Gui, Central Gui and Southern Gui. Among them, there are 2 in northern Guangxi, 1 in central Guangxi, and 2 in southern Guangxi. The number of surveyed colleges is determined according to the number of colleges occupied by each region, including 2 in Northern Gui, 1 in central Gui, and 2 in Southern Gui. Stratified sampling was carried out according to the actual proportion college students in Gui, in which the sex ratio was 0.5: 0.5. The disciplines of participants were divided into liberal arts, science and engineering, with a ratio of 0.3:0.3:0.4. For grades, the four ratios of freshmen, sophomores, juniors and majors are 0.28:0.26:0.24:0.22. 1600

questionnaires were distributed to these colleges and 1550 were collected. After eliminating 25 questionnaires with similarity, regularity, and incomplete answers, 1525 valid questions were obtained (an effective response rate of 98.4%).

2.3. Survey Content

The survey content is divided into two aspects: fertility intention and sociodemographic sociodemographic information. Fertility intention includes five aspects: The first is the number of birth, including ideal number of birth and planned number of birth. The second is age of marriage and birth time of first child. The third is gender preference of children. The forth is the possibility of having three children. The fifth is likeability of child. The sociodemographic information includes eight aspects: gender, grade, family type (only Child or non-only child), household registration type, family structure (single parent or non-single-parent), disciplines, love experience and family income level. And relevant items are set according to the prevailing situation in China and the 2018 Chinese Family Tracking Survey.

2.4. Quality Control

The Cronbach's alpha of the fertility intensions scale was 0.793. Since the option of "infertility" was set in the number of family planning children, the time of birth and the gender preference of child, in order to test whether the three responses of the participants were consistent, repeated measures were used. The results showed that there was no significant difference in the three answers of the same content (F = 1.95, P = 0.142).

2.5. Data Analysis

SPSS (Version 25.0) (SPSSInc, Chicago, IL) was used for data analysis, with significance at P value < 0.05. Descriptive statistical analysis, independent sample T-tests, one-way ANOVA and chi-squared tests were used for difference analysis, and ordered logistic regression was used to causes analysis.

3. Results

3.1. Sociodemographic Characteristics

The Sociodemographic characteristics of the respondents are shown in Table 1, in which the ratio of male to female is 0.48: 0.52, freshman: sophomore: junior: senior = 0.27: 0.26: 0.26: 0.21, liberal arts: science: engineering = 0.33: 0.32: 0.35, which is basically consistent with the set sampling ratio (Table 1).

3.2. Fertility Number

Since less than 1% of participants chose "over four children" in this survey, according to the extreme value processing principle which was marked as "four". The results shows that the average ideal number of children of college students was 1.89, and 76.8% hold that having two children was perfect state in family. The

Table 1. Sociodemographic characteristics of the survey subjects.

Variable	Characteristics	n	%	Variable	Characteristics	n	%
Gender	Male	736	48.3	Grade	Freshman	415	27.2
	Female	789	51.7		Sophomore	400	26.2
Family type	Only child	378	24.8		Junior	397	26
	Non-only child	1147	75.2		Senior	313	20.6
Major	Liberal arts	510	33.4	Family structure	Single parent	133	8.7
	Science	479	31.4		Non-single-parent	1392	91.3
	Engineering	536	35.2	Household income level (rmb/month)	<2500	181	11.9
Love experience	Before in love	487	31.9		2500 - 5000	463	30.4
	In love	378	24.8		5000 - 10,000	603	39.5
	Never in love	660	43.3		10,000 - 15,000	182	11.9
Household registration type	Rural	1000	65.6		>15,000	96	6.3
	City	525	34.4				

average number of family planning children is 1.49. 53.4% of college students plan to have two children, 18% choose not to have a child, and only 5.5% choose to have three children. Although 76.8% of participants believed that the ideal number of children is two, the ratio of planning to have 2 children is only 53.4%. And 16.2% of college students think that the ideal number of children is 1, but the actual rate of have one child is 22.2%. The vast majority of college students believed that they should have children in an ideal state, but the actual rate of choosing not to have children is as high as 18%. There is a misalignment bias between ideal and actual fertility (Table 2).

The difference analysis showed that the number of ideal children and planned children of male (1.93 ± 0.51, 1.67 ± 0.83) were significantly higher than that of female (1.85 ± 0.53, 1.33 ± 0.90; P value = 0.002, P value = 0.000); the ideal number of children of participants from non-only-child family (1.93 ± 0.51) was significantly higher than that participants from only-child family (1.78 ± 0.55, P value = 0.000), but there was no significant difference in planned number of children (P value = 0.73). The ideal (1.93 ± 0.47) and planned (1.55 ± 0.85) number of children of rural participants were significantly higher than those of urban (1.81 ± 0.60, 1.37 ± 0.93; P value = 0.002, P value = 0.000); there were no significant difference in other sociodemographic variables (Table 5).

3.3. Time of Marriage and Child-Bearing

In terms of marriage time, 65.4% of participants plan to marry at the ages of 25 - 29, while 13.8% decided not to be married. The c^2 test shows that female were more likely to not get married, while male participants planned to get married

Table 2. Cross-statistical table of ideal number of children and planned number of children among participants.

Variable	n/%	0	1	2	3	≥4	Mean
Ideal for children	n	13	247	1171	81	13	1.89
	%	0.9	16.2	76.8	5.3	0.9	
Plans to children	n	274	338	815	84	14	1.49
	%	18%	22.2	53.4	5.5	0.9	
	c^2	5285.13	31.78	337.69	0.11	0.07	
	P	0.000*	0.000*	0.000*	0.736	0.788	

Table 3. Chi-squared test of sociodemographic characteristics in time selection.

Marriage time	Don't marry	20 - 24	25 - 29	30 - 34	≥35	c^2 (P)
%/n	13.8 (211)	9.2 (140)	65.4 (997)	10.4 (159)	1.2 (18)	
Gender						48.33 (0.000)*
Male	7.9 (58)	11.3 (83)	67.8 (499)	11.4 (84)	1.6 (12)	
Female	19.4 (153)	7.2 (57)	63.1 (498)	9.5 (75)	0.8 (6)	
Family structure						10.06 (0.04)*
Single parent	21.1 (28)	12.8 (17)	55.6 (74).	9.0 (12)	1.5 (2)	
Non-single-parent	13.1 (183)	8.8 (123)	66.3 (923)	10.6 (147)	1.1 (16)	
Love experience						35.75 (0.000)*
Never in love	19.2 (127)	8.6 (57)	60.8 (401)	10.5 (69).	0.9 (6)	
In love before	12.1 (59)	9.4 (6)	66.1 (322)	10.9 (53)	1.4 (7)	
In love	6.6 (25)	9.8 (37)	72.5 (274)	9.8 (37)	1.3 (5)	
Childbearing time (after marriage)	Not to have children	Never mind	1 - 3 years	4 - 6 years	≥7 years	
%/n	17.5 (267)	50.9 (776)	24.8 (378)	6 (92)	0.8 (12)	
Gender						49.26 (0.000)*
Male	10.6 (78)	55.7 (410)	26.8 (197)	5.8 (43)	1.1 (8)	
Female	24 (189)	46.7 (366)	22.9 (181)	6.2 (49)	0.5 (4)	
Love experience						32.26 (0.000)*
Never in love	21.4 (141)	53 (350)	21.5 (142)	3.8 (25)	0.3 (2)	
In love before	15.4 (75)	50.5 (246)	25.1 (122)	7.8 (38)	1.2 (6)	
In love	13.5 (51)	47.6 (180)	30.2 (114)	7.7 (29)	1.1 (4)	
Household registration type						11.18 (0.025)*
Rural	15.3 (153)	52 (520)	26.1 (261)	5.9 (59)	0.7 (7)	
City	21.7 (114)	48.8 (256)	22.3 (117)	6.3 (33)	1 (5)	

Note: Pearson c^2 was used to test the difference between different categories. *P < 0.05.

earlier (P value = 0.000); participants from single-parent family were more likely not to get marry, and participants from non-single-parent family were more likely to get marry at the age of 25 - 29 (P value = 0.03); participants who had never been in love were more likely to be a celibatarian, and those who were in love planed to get married earlier (P value = 0.000). There were no significant differences in other sociodemographic variables (Table 3).

In terms of the child-bearing time, 50.9% of participants hold the idea of letting nature take its course about child-bearing, 24.8% of them chose child-bearing time of 1 - 3 years after marriage, and 17.5% chose not to have child. The c^2 test showed that female participants were more likely not to have a child, while male were more likely to choose have children 1 - 3 years after marriage (P value = 0.000). Participants who fall in love were more likely to have a child within 1 - 3 years after marriage, while participants who have never been in love were more likely to not have a child (P value = 0.000). Compared with rural participants, urban participants were more likely not to have a child (P value = 0.025); there were no significant differences in other sociodemographic variable (Table 3).

3.4. Gender Preference of Child

To make it easier to finish the questionnaire, the project set the option of "not bearing children" and removed the data of "not bearing children". The result showed that 42.2% of participants have no preference for the gender of their children, 42.1% of them preferred to have both boy and girl, 4.8% of them preferred girl, 10.9% of them preferred boy and only 15.7% had a specific preference for the gender of their children. The c^2 test showed that female participants were more likely to no preference and a small number of male participants preferred to have girl (c^2 = 15.16, P value = 0.002); participants who have never in love were more likely to no preference (c^2 = 24.05, P value = 0.000); there were no significant differences in other sociodemographic variable.

3.5. Possibility of Having Three Children

This paper used the seven-point scoring method, 1 means extremely unlikely, 4 means uncertain and 7 means completely possible. The results indicated that the proportion of those who score below 4 was 74.4%, among which 44.6% chose "1", and 15.9% chose "4". The proportion of participants with over 4 was 9.6% and 2.5% chose 7. The mean value of this project was 2.36, which indicated that most participants preferred not to have third child. The difference test showed that male participants were significantly more likely to have three children than female (P value = 0.000). The probability of third child of science and engineering students were higher than arts students (P value = 0.004). There were no significant differences in other sociodemographic variables (Table 5).

3.6. Likeability for Children

The seven-point scoring method was adopted in this research, 1 means extremely

Table 4. Difference analysis of sociodemographic variables in ideal number of children, planned number of children, possibility of having three children and fondness for children.

Characteristics	n	Ideal number of children		Planned number of children		Possibility of having three children		How much you like your children	
		M ± SD	t/F LSD	M ± SD	t/F LSD	M ± SD	t/F LSD	M ± SD	t/F LSD
Gender (P value)		0.002		0.000		0.000		0.000	
Male	736	1.93 ± 0.51	3.17	1.67 ± 0.83	7.80	2.79 ± 1.68	10.50	4.96 ± 1.57	8.44
Female	789	1.85 ± 0.53		1.33 ± 0.90		1.97 ± 1.36		4.25 ± 1.72	
Family type (P value)		0.000		0.729		0.86		0.003	
One child	387	1.78 ± 0.55	−4.80	1.48 ± 0.87	−0.35	2.38 ± 1.61	0.17	4.37 ± 1.70	−2.96
Non-only child	1147	1.93 ± 0.51		1.49 ± 0.88		2.36 ± 1.56		4.66 ± 1.67	
Hukou type (P value)		0.000		0.000		0.458		0.000	
Rural	1000	1.93 ± 0.47	4.56	1.55 ± 0.85	3.72	2.39 ± 1.53	0.74	4.71 ± 1.67	3.66
City	525	1.81 ± 0.60		1.37 ± 0.93		2.32 ± 1.65		4.38 ± 1.69	
Major (P value)		0.026		0.093		0.004		0.243	
Arts = 1	510	1.84 ± 0.56	3.66 3 > 1	1.42 ± 0.88	2.38	2.18 ± 1.50	5.58 2 > 1; 3 > 1; 3 > 2	4.50 ± 1.64	1.43
Science = 2	479	1.90 ± 0.50		1.51 ± 0.88		2.42 ± 1.61		4.59 ± 1.70	
Engineering = 3	536	1.93 ± 0.50		1.53 ± 0.87		2.50 ± 1.61		4.68 ± 1.71	

LSD: Least-Significant Difference.

dislike, 4 means uncertain and 7 means extremely like. The results showed that 22.8% of participants score below 4, 25.6% of them chose 4, and 51.6% of them chose over 4. The mean value in this project was 4.59. Overall, college students tend to have higher likeability for children. The results of difference testing showed that the participants of male, non-only-child family participants and rural participants had higher likeability for children (P value = 0.000, P value = 0.003, P value = 0.000); there were no significant differences in other sociodemographic variables (Table 4).

3.7. Ordered Logistic Regression Analysis

According to previous studies, likeability for children and marriage time affected peoples' fertility intentions. The correlation analysis results showed that there was a significant positive correlation (Pearson correlation) between the likeability for children and the number of family planning children (r = 0.402, P value = 0.000) and the possibility of having three children (r = 0.333, P value = 0.000). Marriage time and the number of children (r = 0.282, P value = 0.000) and the probability of having three children (r = 0.124, P value = 0.000) were also significantly positively correlated (Kendall's Harmony Coefficient). After the difference test and correlation analysis, the independent variables of the logistic re-

gression model were determined. Among them, the independent variables of the planned number of children were gender, household registration type, marriage time, and the likeability for children; the independent variables of the possibility of having three children were gender, type of discipline, marriage time and likability for children; in which gender, household registration type, marriage time and type of discipline were categorical variables, and likability for children was a continuous variable.

The results showed that gender, household registration type, marriage time and likeability for children were predictors of the number of planned children, the total test of the model coefficient was statistically significant (χ^2 = 721.58, P value = 0.000). Compared with female and urban participants, male (OR = 1.312) and rural participants (OR = 1.398) had more planned children (P value = 0.014, P value = 0.003); the earlier the marriage time and the higher likability for children (OR = 1.536), the more children planned to have (P value = 0.000, P value = 0.000) (Table 5). Gender, marriage time, and likability for children can significantly predicted the possibility of third-child-birth of participants. The total test of the model coefficient was statistically significant (χ^2 = 370.56, P value = 0.000). Compared with female, male of participants were more likely to have a third child (OR = 1.976, P value = 0.000). The earlier participants get married and the greater fondness for children (OR = 1.382), the more likely they were to have the third child (P value = 0.000, P value = 0.000) (Table 5).

Table 5. Ordered logistic regression analysis of the number of planned children on sociodemographic variables.

Number of children under family planning				Possibility of having three children			
Variable	OR	95% CI	P	Variable	OR	95% CI	P
Gender (female as reference)				Gender (female as reference)			
Male	1.312	1.06 - 1.63	0.014	male	1.976	1.62 - 2.41	0.000
Date of marriage (20 - 24 years)	old as reference		0.000	Date of marriage (20 - 24 years Old as reference)			0.000
Don't marry	0.019	0.01 - 0.03	0.000	Don't marry	0.100	0.06 - 0.17	0.000
After the age of 35	1.557	0.48 - 5.01	0.458	After the age of 35	0.763	0.26 - 2.25	0.624
25 to 29 years old	0.708	0.49 - 1.03	0.071	25 to 29 years old	0.598	0.43 - 0.83	0.002
30 to 34 years old	0.598	0.37 - 0.96	0.034	30 to 34 years old	0.483	0.31 - 0.74	0.001
Children's liking	1.536	1.43 - 1.65	0.000	Children's liking	1.382	1.30 - 1.47	0.000
Household Registration (city as reference)				Major (with engineering as reference)			
Rural	1.398	1.12 - 1.75	0.003	Liberal arts	0.822	0.65 - 1.04	0.105
				Science	1.020	0.81 - 1.29	0.871

OR: Odds Ratio; CI: Confidence Interval.

4. Discussion

4.1. Descriptive Statistics and Comparative Discussion

This survey showed that the number of planned children in participants' was 1.49, and the ideal number of children was 1.89. The difference between the two were significant (P value = 0.000). Under the "Three-child" policy, the ideal number of children in participants was less than two, and the situation of number of ideal and planned children was decreasing successively (Saikia et al., 2019). In the 1960s, the fertility rate of some European countries were as low as 1.75, but the ideal number of children has never dropped below 1.9 (Zeman et al., 2018). The actual fertility situation needs to consider their own situation, economic conditions, education costs, pension system, social welfare and so on, which may be the reasons for the deviation between the ideal and planned.

In terms of gender preference for children, most participants didn't have gender preference for children, which was consistent with the results of a recent study (Hu & Chiang, 2022). Among participants who has received higher education, traditional thoughts such as favoring boys over girls have been spurned and the concept of equality between male and female has been deeply rooted in the hearts of them (Lung et al., 2021). Gender equality education has achieved remarkable results in China and gender complementarity has become minority—a small number of male would have a preference for girl. In terms of gender combination, the concept of having both boy and girl was popular which was consistent with previous research results (Liu & Gong, 2020). "Having both boy and girl" has always been the ideal state pursued by most Chinese people. In China, it represents a happy family and marriage. In terms of marriage time, college students tend to "get married later", and a few of them chose "not to get married". The proportion of female and participants who have never been in love chose not to get married were higher than others, while male and participants who were in love chose to get married earlier, which was in line with the results of a recent study (Hoffman, 2015). With the development of society, female do not need to obtain material resources by get married, so they were less willing to get married. In Chinese traditional culture, "cultivating morality, raising family, and having male offspring" were seen as important missions for male, so male college students chose to get married earlier. College students who have never been in love may not know how to deal with intimate relationships, or they were singlism, so the possibility of choosing not to get married of them was higher than others (Yameen et al., 2021). College students who fall in love have established intimate relationships, so getting married was a common idea for those people. When it comes to child-bearing time, college students tend to choose to "let nature take its course", however, "no child-bearing" still accounts for a certain proportion overall. Female students and college students who have never been in love were more likely to choose childlessness, and the proportion of urban college students was larger than others, which is basically consistent with previous studies. Child-bearing is a natural process, and the concept of "letting nature

take its course" is more consistent with the law of childbearing. Female college students and who have never been in love have a higher probability of not getting married, so the possibility of choosing not to have child was higher than others. The rate of childlessness among urban college students was higher, which may be caused by cultural differences. People from and still living in rural areas were more influenced by traditional culture and considered child-bearing as a responsibility. Urban college students are more influenced by diverse cultures, so they have more loose view on child-bearing.

In terms of likability for children, college students didn't have a high likability for children. There were two possible reasons for that phenomenon: The first was the living environment and China's unique birth policy. China's one-child policy leads to the majority of "post-1995" and "post-2000" college students being the only child in their family and they have limited opportunities to contact with children, which resulted in a lack of affection for children (Wilson, 2019). The second was related to culture and education. As the objects of this survey were college students with higher education level. There was a significant positive correlation between education level and motivation to achieve (McDonald, 2000). The stronger the motivation to achieve, the higher their desire for self-realization (Kim, 2017), which may also be one of the reasons why college students do not like children very much.

4.2. The Logistic Regression Analysis Was Discussed

It was found that gender, time of marriage, and likability for children could significantly predict the number of children and the possibility of having three children. Gender could predict the number of planned children and the possibility of having three children. The number of planned children of female was less than male and the possibility of having three children of female was lower than male. On the one hand, due to the development of gender equality consciousness and improvements in the social status of female, female was freed from the family and they could be engaged in social work as male. In their works, female reflected the social mores, however, fertility entailed long pregnancy and lactation times, it entailed significant amounts of time and effort and exerted a great influence on women's career development. A study in the USA found that compared with female who focus on family, female who focus on a career tend to have fewer children (Agnese et al., 2009). On the other hand, due to the impact of child-birth on female's physical and mental health, female might have more negative emotions towards child-birth (Chatterjee & Sennott, 2020). A study showed that the negative impact of pregnancy, child-birth and child-care experience would reduce their willingness to reproduce. The time of marriage could predict the number of planning children and possibility of having three children. In China, marriage and child-birth were closely linked. According to the 2017 National Fertility Survey, only 1% of couples who have been married for 5 years or more without children and 6% of couples who have been married for 3 - 5 years without children. International experience also showed that cohabitation

or marriage were the core predictor of the number of female's child-birth (Berrington & Pattaro, 2014). For both male and female, unmarried life was the main factor that prevented them from realizing their fertility intentions. In Japan, which is also a member of the East Asian cultural circle (Morgan & Rackin, 2010; Mynarska et al., 2015), the total fertility rate dropped from 1.75 to 1.52 at the end of the last century, however, its marital fertility rate increased by 66.7%. Since the beginning of the 21st century, Japan's fertility rate had been around 1.4, but the average number of children born of married couples had always been above 2.1.

The higher likability for children a people had, the more children they planned to have and the more likely they were to have three children. According to the cognitive behavior theory, individuals will be motivated to perform specific behaviors only after they have positive emotions and cognition towards things. Child-bearing is an important event in people's life. If individuals have positive emotions towards children, they will tend to perform child-bearing behaviors. According to biodemography, human behavior is controlled by genes and fertility is no exception (Ahinkorah et al., 2021). From the perspective of biological evolution, love of children and desire to protect children are species instincts, which enables species to reproduce and genes to continue. Therefore, the higher the likability in an individual to children, the higher possibility they would have more children (Mynarska & Rytel, 2020).

Household registration type could significantly predict the number of planned children, but not predict the possibility of having the third child. Rural college students had higher likability of children due to their siblings were more numerous, slower pace of life, greater intimacy and closer familial ties in rural China. All of that made the scene of four generations in one group more common, children from very young could feel family affection and these factors might lead to their higher fertility intentions. However, the possibility of giving birth to a third child was not only related to blood kinship but also related to the cost of raising children. Such "family kinship" could only have an impact within a certain range. Once it goes beyond the scope of "one child" and "two children", the effect vanishes.

This study found that household income was not predictive to fertility intentions. Lots of studies had shown that economic income and upbringing cost were the direct causes of low fertility rate (Adsera, 2005). There may be three reasons for the inconsistent results: First, the groups surveyed were different. Because college students do not have independent economic income and family income was not belong to them. Coupled with strong independence consciousness among college students, they do not want to rely on their elders. Second, the historical background was different. By 2020, China has completed the building of a moderately prosperous society in all respects, and there were no more people living in absolute poverty. Therefore, the phenomenon of "poorer people have more children" has disappeared. Third, the policy background was different. Previous studies were based on the background of the "one-child" and "two-

child" policies, while this study took the "three-child" policy as its background. The influencing factors of fertility intentions were more complicated under the "three-child" policy.

Fertility intention is a complicated social issue, which is affected by many factors such as economy, society and culture. Under the rapid adjustment of China's fertility policy, the fertility intention is far from reaching the government's expectation and the population growth stimulated by the policy was weak. Compared with Western countries, although their economy was highly developed and various policies were adopted, the birth rate remains low (Aiken & Scott, 2016). Therefore, in addition to economy and policy, we do should also consider from other aspect such as strengthening the fertility concept education of urban young people at childbearing age and advocating marriage at the right age. We found that female were less willing to give birth which is worth pondering. In the future, we can continue follow-up study from the perspective of gender to understand female's concerns about fertility issues in order to promote gender equality and build a fertility friendly society.

This study also has the following two shortcomings: First, the survey sample was limited in college students and the scope was limited to in Guangxi. Second, the factors influencing college students' fertility intention were only preliminarily discussed and the causality was not further determined. The influencing can be further studied by combining the experimental method and interviewing method in the future.

In summary, under the "Three-child" policy, college students in Guangxi have lower fertility intention and were less likely to have a third child in the future. And in addition to the new birth policy, it was necessary to take various measures to improve the fertility rate in China.

Acknowledgements

Ethical Approval

The Institutional Review Committee was approved by the School of Marxism, Guangxi University (No. 20210901), and all participants obtained oral informed consent.

Funding

Conflicts of Interest

There is no conflict of interest.

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