

The Relationship Between the Fertility Intentions and Psychological Factors of Highly Educated Women

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This study explores whether two psychological factors, namely identity (including family identity and personal identity) and social justice beliefs, affect the fertility intentions of highly educated women. The researcher used an online questionnaire to measure family identity, personal identity, and social justice belief. Results show that (1) there is no significant relation between either family identity or personal identity and fertility intention; (2) there is a positive correlation between the fertility intention and social justice beliefs, while controlling for family identity, personal identity, and income. The academic and social impact of current research is discussed.

Keywords: fertility intention, women, identity, social justice beliefs

Introduction & Literature Review

Nowadays, sub-replacement fertility is not optimistic, and it has a negative impact on the development of the society. In order to ensure the generational replacement of a country's population, that is, the total population remains unchanged, the total fertility rate generally needs to be kept at 2.1 to achieve this goal (Zhang, 2019). In recent 30 years, China's total fertility rate has been below the replacement level. Zhang (2019) discovered that the consequences of a decline in fertility rate include a significant acceleration in population aging, changes in family structure, and increased pressure on families to provide for the elderly.

The low fertility rate in China has been a concern for the policy makers as well as researchers, especially after the introduction of the "three-child" birth policy (Yang & Xie, 2022). The three-child policy is a fertility policy that China actively responds to the aging population. On May 31, 2021, the Political Bureau of the Central Committee of the Communist Party of China held a meeting to further optimize the birth policy and implement the policy of one couple having three children and supporting measures. China is about to enter a moderately aging society, but the two-child policy has limited effectiveness in promoting an increase in fertility rate (Wang et al., 2023). From 2015 to 2020, China's fertility rate took the lead and continued to decline. Yang and Xie (2022) discovered that the youth stage is a critical period in the process of life when reproductive behavior occurs, and how to encourage young people to have children is of great significance for improving fertility levels.

Fertility willingness can partially explain individual fertility behavior and predict fertility levels, which has always been a hot topic in academic research. The existing research can be broadly divided into the following categories. First, some research uses economics, demography, sociology, and other related theories to analyze

the change trend of population fertility willingness from a macro perspective. For example, Zhao (2012) outlined the trajectory of China's fertility level changes since the founding of the People's Republic of China and divided it into four parts: the period of very high fertility from the founding of the People's Republic of China to the pre 1970s when fertility was very high, the period of sharp decline in fertility levels in the 1970s, the period of lingering fertility levels not far from replacement levels in the 1980s, and the period of low fertility levels from the 1990s to the present. The second is to explore the impact of fertility policies on fertility willingness. For example, since the 1980s, Singapore has taken a series of measures to promote marriage matching and alleviate the difficulty of marriage. Singapore has provided a lot of financial support for families to purchase government flats. Buyers can choose different subsidy schemes according to their family arrangements. Low-income families can get an additional subsidy of \$40,000 Singapore dollar. When buyers choose to live near or with their parents, they can get an additional subsidy. The salary for maternity leave in Japan is 2/3 of the basic salary paid by social security. If a company pays employees' salaries, the social security expenditure will be reduced (Lin & Xie, 2019). Thirdly, there are studies on differences between willingness and behavior in fertility phenomena. For example, Becker applied consumer behavior theory to the study of fertility rates in families and proposed the cost-benefit theory. In his view, family fertility decision-making is to seek the maximum utility function between children and other items. When the family income level is fixed, the number of children born is determined by the price of the children. When the family income changes, parents' views on childbirth can also change (Y. Wang, D. Wang, & Zhang, 2016). The fourth is to conduct empirical analysis on different factors that affect fertility intention. For example, Wang et al. (2023) discovered that there are statistically significant differences in the willingness to conceive among medical workers of different genders, hospital levels, professional titles, and child caregivers; there were no statistically significant differences in the willingness to have children among medical workers of different ages, places of residence, educational level, department, monthly income, physical condition, marital status, current number of children, spouse occupation, loan availability, and proportion of children's expenses.

The factors that affect the decline in the birth rate include objective factors (policies, society, economy, families, individuals, etc.) and subjective factors. Zhang (2019) discovered that the process of declining fertility rate is irreversible, which is a combination of objective inevitability and subjective initiative. Previous studies, however, have overly focused on the objective factors, while neglecting the impact of people's subjective psychological factors on fertility rates.

To fill in this gap, current study is designed to focus on two psychological factors: The first one is identity (including family identity and personal identity). Identity is a cognition and description of oneself by the actor. It reflects the subject's perception of their role and status in the social system and influences individual behavior and decision-making. Women are the main body of reproductive activities, and their willingness to have children may be affected by their identification of such role. The construction of female identity represents the awakening of female subjectivity, and women yearn for recognition from society and family, placing greater emphasis on the improvement of their own identity and status. In the new era, the positive, confident, and economically independent identity of highly educated women has become mainstream. Liu and Guan (2022) discovered that contemporary women play different roles in society and families, forming identity based on their own and family roles. The first dimension is family identity. In a modern family, women have the dual roles of "wife" and "mother", and assume the important task of raising minor children. Therefore, the stronger the sense of family

identity of women, the more attention they will pay to the common development of the family, which is more conducive to the formation of family cohesion. The second dimension is self-identity. People who have a strong sense of self-identity pay more attention to their own feelings and the realization of their own values, and may thus prioritize their personal development over having children.

The second variable is social justice beliefs. The belief in a just world refers to people being motivated to believe that they live in a just world where they can receive what they deserve (Su, Zhang, X. Q. Wang, & J. L. Wang, 2012). Su et al. (2012) discovered that this belief is more likely to make people believe that the social environment he is in is stable and orderly. The belief in a just world can enhance individual happiness and provide a sense of purpose in life, focus on long-term goals, stimulate prosocial behavior, and provide a buffer against negative events, thus enabling individuals to better adapt to society. Therefore, I innovatively speculated that the belief in a just world can make women feel positive and thus it has a positive relationship with their willingness to have children.

In sum, I postulate six hypotheses:

1. There is a positive correlation between the fertility intention and family identity of young women with high education.
2. There is a negative correlation between the fertility intention and personal identity of young women with high education.
3. There is a positive correlation between the fertility intention and social justice beliefs of young women with high education.
4. The fertility intention of young women with high education is not related to family identity.
5. The fertility intention of young women with high education is not related to personal identity.
6. The fertility intention of young women with high education is not related to social justice beliefs.

Method

Materials

The questionnaire is divided into two parts. The first part tests fertility intention and control variables, and the second part tests variables (six-point scoring).

Confounding variable: Income. Due to the impact of economic income on subjective psychology, the economic income indicator (Question 1) is used for grouping and comparison.

Fertility intention measurement. The measurement method of fertility intention (Questions 3 & 4) combines two existing research questions, namely the number of ideal children and whether there is fertility intention, respectively. According to existing research, the ideal number of children is used to represent fertility intention. Question 3 uses the answer to the question “If there are no policy restrictions, how many children would you like to have?” in the CGSS 2017 questionnaire to reflect women’s desire to have children (Desire). CGSS is a national large-scale survey project that has collected multi-level data from society, families, and individuals since 2003. It provides data materials for various government decisions and academic research, and is currently one of the important sources of data for studying social issues in China. Considering that there are relatively few cases where the number of willing children exceeds four, the number of willing children with more than four is merged into four (representing four or more).

Social justice beliefs measurement. The part of testing the belief in a just world (Questions 5-10) continued to use the question of general world justice beliefs in Su Zhiqiang’s Just World Belief Scale (Su et al., 2012).

The correlation coefficient of all items is between 0.538 and 0.774, so keep all items. The internal consistency Cronbach's α of the total scale is 0.885, and the Cronbach's α of general just world belief in the subscale is 0.854. Social justice belief is measured by the sum of the answers of Questions 5, 6, 7, 8, 9, and 10. The statements are "I think basically the world is a just place", "I believe that, by and large, people get what they deserve", "I am confident that justice always prevails over injustice", "I am convinced that in the long run people will be compensated for injustices", "I firmly believe that injustices in all areas of life (e.g., professional, family, politics) are the exception rather than the rule", and "I think people try to be fairly when making important decisions". The larger the value, the more they agree with the viewpoints in the questionnaire, which means that women have a stronger sense of social justice beliefs.

Family identity measurement. The part of testing family identity (Questions 11-13) and personal identity (Questions 14-16) continued to use questions from Liu Yongfang and Guan Yexuan (2022). According to the previous analysis, identity is divided into two dimensions, namely family identity and self-identity. Family identity is measured by the sum of the answers to Questions 11, 12, and 13 of questionnaire. The statements are "Wife helping her husband's career is more important than pursuing her own career", "Husband's responsibility is to make money, and wife's responsibility is to take care of the family", and "It is best not to go out to work before the child goes to school". The processed variable is the female family identity score. The larger the value, the more they agree with the viewpoints in the questionnaire, which means that women have a stronger sense of family identity. (The Cronbach's α is 0.7783, and the KMO coefficient is 0.6481, indicating that the reliability and validity of the answer to this questionnaire are acceptable.)

Self-identity measurement. Self-identity is based on the sum of the answers to Questions 14, 15, and 16 of questionnaire. The statements are "Men are naturally stronger than women in terms of abilities", "It's better to marry well than to do well", and "In times of economic downturn, female employees should be fired first". The processed variable is the female self-identity score. The larger the value, the more they agree with the viewpoints in the questionnaire, which means that the weaker the female self-identity score is. (The Cronbach's α is 0.6306, and the KMO coefficient is 0.6344, indicating that the reliability and validity of the answer to this questionnaire are acceptable.)

Participants

The subjects were 212 female undergraduates and graduate students in Xi'an Jiaotong University. Owing to the desire to ensure that all the participants have high education background, education level was also used as a control variable, so that I could remove nine test papers with a high school education level (Question 2) from the valid questionnaire. In order to ensure that the participants are female, I marked the words "female friends are welcome to participate" in the introduction section of the questionnaire.

Procedures

This questionnaire is circulated in WeChat among undergraduate students and graduate research groups of Xi'an Jiaotong University. The process of filling out the questionnaire is carried out when the participants are willing.

Results

R software was used as a tool to analyze the data.

Descriptive Statistics

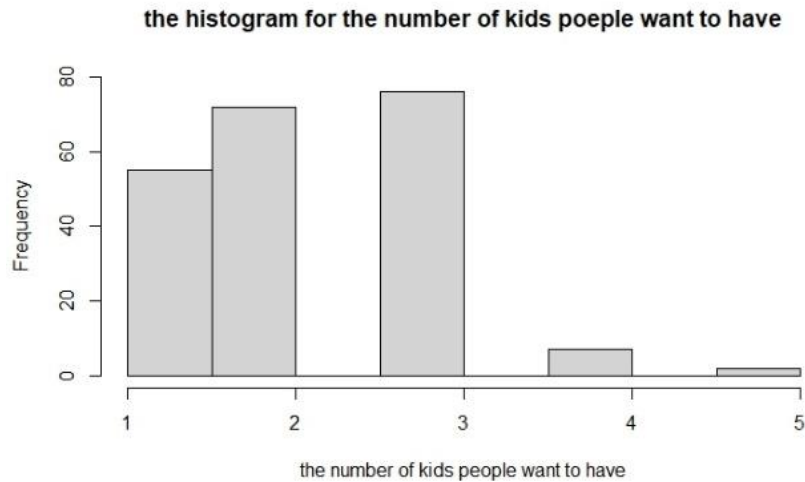


Figure 1. The histogram for “If there are no policy restrictions, how many children would you like to have”.

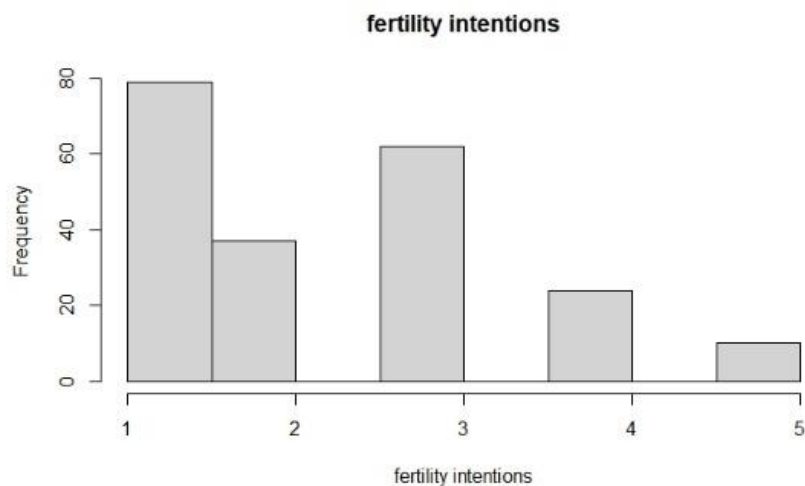


Figure 2. The histogram for the desire to have children.

As displayed in Figure 1 and Figure 2, the fertility intention in participants is very low. As for Question 3 “If there are no policy restrictions, how many children would you like to have?” (1 refers to 0 child; 2 refers to 1 child; 3 refers to 2 children; 4 refers to 3 children; 5 refers to 4 or more children), most of the answers are concentrated between one child and two children, even without giving birth. As for Question 4 “May I ask if you currently or soon have a desire to have children?” (1 refers to not at all, 2 refers to little or not, 3 refers to neutrality, 4 refers to quite a few, 5 refers to having a strong will), most of the answers are concentrated between no desire at all to neutrality.

As shown in Table 1, the mean of desire to have children is around 2.3, which is between little or no intention and neutrality. Generally, the participants have low level of family identity and high level of self-identity. The statistical dispersion of social justice belief is large.

Table 1

The Mean and Standard Deviation of Variables

	mean	sd
4. May I ask if you currently or soon have a desire to have children? (5point scoring: 1 refers to not at all, 2 refers to little or no, 3 refers to neutrality, 4 refers to quite a few, 5 refers to having a strong will)	2.287736	1.211024
Score of social justice beliefs (full score: 36)	19.58962	6.897797
Score of female family identity (full score: 18)	4.882075	2.518229
Score of female self-identity (full score: 18)	12.71698	2.771142

Correlation Test

Table 2

The Correlation Between Each of Two Measured Quantities Without Control Variables

Correlation coefficient	fertility intention	income	social justice beliefs	female family identity	female self-identity
fertility intention	1				
income	0.8427	1			
social justice beliefs	0.0002032***	0.5131	1		
female family identity	0.1082	0.1552	0.1638	1	
female self-identity	0.7633	0.1998	0.3782	< 2.2e-16***	1

Results in Table 2 showed that apart from the strong relationship between family identity and self-identity, there is a remarkable positive correlation between the fertility intention and social justice beliefs. However, the relationship between fertility intention and other variables is not significant.

Hierarchical Regression

Table 3

The Results of Hierarchical Regression (1)

	estimate	Pr(> t)
(Intercept)	1.41935	2.05e-08 ***
Score of social justice beliefs	0.04433	0.000203 ***

Table 4

The Results of Hierarchical Regression (2)

	Estimate	Pr(> t)
(Intercept)	1.36141	4.35e-06 ***
Score of social justice beliefs	0.04453	0.000199 ***
Score of income	0.03369	0.707487

Table 5

The Results of Hierarchical Regression (3)

	estimate	Pr(> t)
(Intercept)	1.20904	0.000144 ***
Score of social justice beliefs	0.04302	0.000338 ***
Score of income	0.02195	0.807538
Score of female family identity	0.04113	0.206455

Table 6

The Results of Hierarchical Regression (4)

	estimate	Pr(> t)
(Intercept)	0.96323	0.153640
Score of social justice beliefs	0.04223	0.000521 ***
Score of income	0.02287	0.800100
Score of female family identity	0.05265	0.220660
Score of female self-identity	0.01600	0.680172

Next, we conducted hierarchical regression analyses to examine the relationship between fertility intention (dependent variable) and social justice belief (independent variable). At the first time, we just put these two variables into the regression model, as shown in Table 3. Then income was placed into it as a control variable, as shown in Table 4. After that, I added female family identity into the programming, as shown in Table 5. Finally, all the variables were involved in, as shown in Table 6. Step by step, we can find that no matter how many control variables there are, social justice belief still has a strong relationship with fertility intention.

Discussion

By delving into psychological factors, current research enriches our understanding on what factors may impact fertility intention. In particular, this research provides the first evidence on the positive correlation between the fertility intention and social justice belief, which is a completely novel and interesting finding.

There is no significant relations between female identity and fertility intention, which does not align with the hypotheses. There are two possible reasons of this surprising finding. Firstly, I postulate that when making decisions of giving birth to children, women are considering more and more about fair and hopeful social environment, rather than their judgment on future identity. They really hope that their children can lead their ideal lives through their own efforts. They did not attach great importance to the transformation of their identity

from self to mother before and after childbirth. This shift in emphasis was unexpected when the author conducted the experiment. Secondly, the distribution of female identity may contribute to the weak relationship between fertility intention and identity. From Figure 3 and Figure 4, we can find that most of participants have a low level of family identity and a high level of self-identity (the full scores of family identity and self-identity are both 18). The difference in identity is not significant; therefore, we cannot find significant relationship between fertility intention and identity.

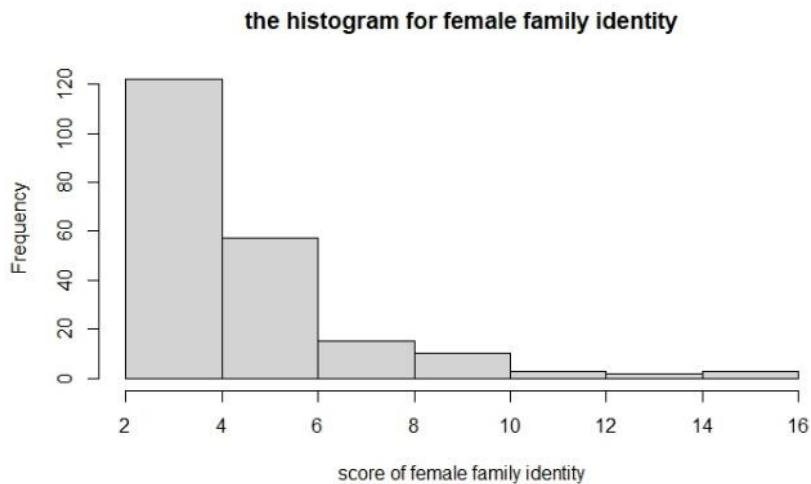


Figure 3. The histogram for female family identity.

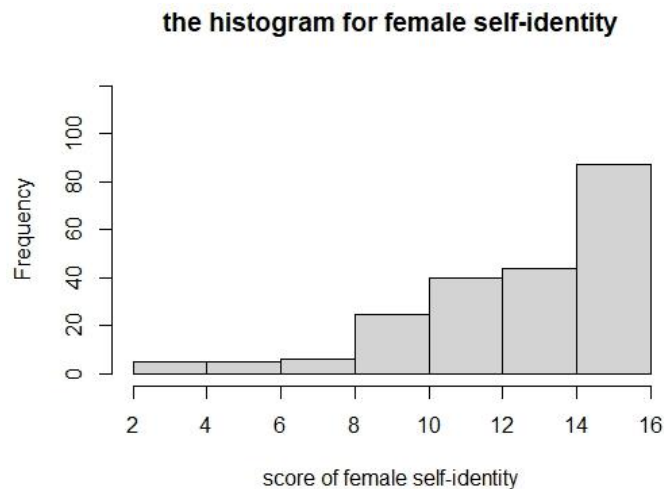


Figure 4. The histogram for female self-identity.

This research can also shed some light on fertility policy. Promoting fertility requires a comprehensive set of policies, and the effectiveness of any individual policy is often greatly compromised. Although policies aimed only at encouraging the increase of the fertility rate have short-term effects, they cannot fundamentally reverse the problem of sub-replacement fertility. The phenomenon of low fertility in East Asia is a by-product of the “compressed” industrialization development in East Asia. This market-oriented rapid development model has intensified competitive pressure and competitive mentality. Under highly competitive social and spiritual

pressure, the new generation has prioritized personal “survival instincts” and placed human “reproductive instincts” in a secondary choice. It should be the basic orientation of social policy to free everyone from great competitive pressure and competition, restore a simple lifestyle, and have children with peace of mind. In addition, the new breakthrough point is making people truly feel fairness and justice. Fairness and justice are the eternal pursuit of human values, as well as the spiritual core of law and the ethical foundation of legislation. To achieve fairness and justice through the rule of law: Firstly, we must fully utilize the function of the rule of law and reconstruct the basic evaluation system of social fairness and justice in China. Scientific legislation should be adopted to transform abstract and reasonable demands for fairness and justice into specific and clear legal rights or interests; ensure the legitimate rights and interests of the public through strict law enforcement and fair justice. The public should uphold and realize the fairness and justice of their legal rights or interests through the rule of law. On the basis of fully promoting democracy and comprehensively understanding the various interests and demands of the public, the government should clarify the public’s interests and demands for fairness and justice. Second, through fair and just substantive law, we should reasonably stipulate citizens’ rights and obligations, reasonably allocate various resources and interests, and scientifically allocate various powers and responsibilities, so as to achieve distributive justice in substantive content. Third, through democratic, scientific, and effective procedural law, we should formulate procedural rules that can fully reflect public opinion and are accepted by the majority of people, allocate resources, balance interests, coordinate contradictions, ease conflicts from the procedural law, and achieve fairness and justice in procedural rules. Fourth, when conflicts of interest such as contradictions and disputes occur, they should be resolved as far as possible through various legal procedures and mechanisms, including judicial procedures, to achieve the entity and procedure justice of the rule of law, at least the justice of the legal procedures.

This study also has some limitations: (1) The participants are concentrated in the highly educated population, so the results may not represent entire society. It is resulted from the boundedness of participants. (2) The factors that include affection for children may affect the results of this experiment, but the interference of these factors was not considered during the study. Thus, In the future, I plan to explore more psychological factors that are related to fertility intention. Several possible assumptions that may be related to the low fertility rate are shown below: For example, great competitive pressure makes young people afraid to have children. As mentioned in the explanation part, future mothers are worried about whether their children can achieve their goal by endeavor. Take South Korea as an example, where the entire society is trapped in a hopeless and extremely fierce competition. The college entrance examination will determine what kind of university people enter and directly define their lives. South Korea has completely bid farewell to the era when ordinary people had the opportunity to achieve class rise and become a mature society with fixed social classes. The wealth gap and class contradictions are deep-rooted social problems in South Korea and even throughout East Asia. Elitism in Confucian culture also increases the burden of education. The birth control under patriarchy has left an indelible shadow on modern people’s cultural values. The ebb of desire has never been so rapid in East Asian society as it is today.

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