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The Impact of Subjective Well-being on the Fertility Intentions of Women of Childbearing Age

Rong Li*

School of Management, Xi'an Polytechnic University, Xi'an, China

Corresponding author: Rong Li, lirong8937@163.com

Abstract: In recent years, China has faced the severe challenge of low fertility rates and negative population growth, which poses threats to social stability, economic growth, and the pension system. The government places high importance on this issue, as population resources are key to the sustainable development of society. This study focuses on the group of women of childbearing age in China, using data from the 2021 China General Social Survey (CGSS)to explore the impact of subjective well-being on fertility intentions and its underlying mechanisms. The findings indicate that the higher the subjective well-being of women of childbearing age, the more children they intend to have. This relationship varies among women with different income levels. Income level amplifies the relationship between subjective well-being and fertility intentions. Moreover, the three sub-dimensions of subjective well-being—development experience, satisfaction experience, and physical and mental health experience—all have significant positive impacts on the desired number of children. Heterogeneity analysis further reveals that the impact of subjective well-being on the fertility intentions of women of different ages and marital statuses is markedly different. Based on these findings, developing targeted strategies to enhance the fertility intentions of women of childbearing age can not only help alleviate the urgency of declining fertility rates but also provide practical references for policymakers to promote sustainable economic and social development.

Keywords: Subjective Well-being, Fertility Intentions, Income Level

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1.Introduction

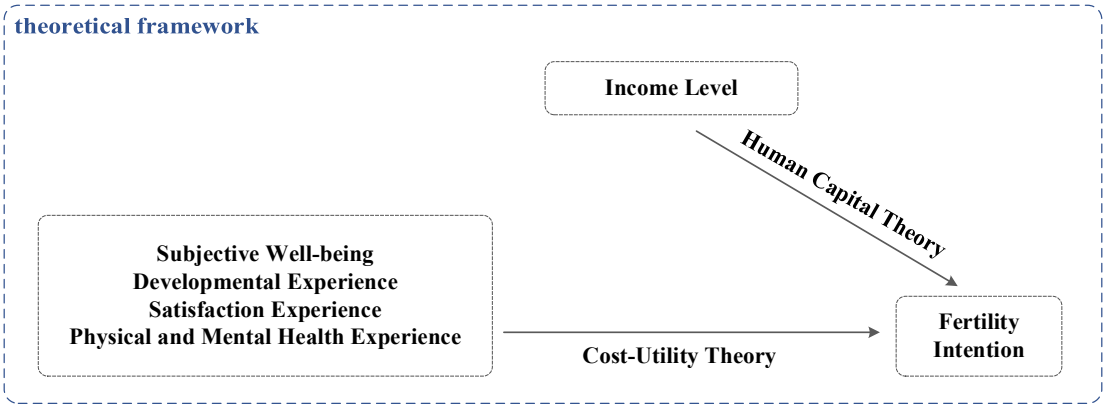
Subjective well-being is a multidimensional concept that encompasses not only an individual's emotional state but also their evaluation of life satisfaction. However, current research on the impact of subjective well-being on fertility intentions mostly focuses on analyzing subjective well-being as a single, unifi ed concept[1-3].There is a relative scarcity of studies that break down subjective well-being into multiple dimensions to analyze their individual impacts on individual behavior. Moreover, although existing studies on the factors infl uencing fertility intentions have provided us with a wealth of data and insights, we have also observed that they tend to overlook the impact of subjective factors, which limits their comprehensiveness. Additionally, income level, as an important indicator of socioeconomic status, plays a signifi cant role in individual fertility decisions. It directly aff ects the economic conditions of a family, which in turn infl uences fertility choices, as the cost of raising children is an essential factor that families must consider[4-6]. Therefore, given the signifi cant impact of income level on fertility intentions, it is worth exploring its potential moderating role in the relationship between subjective well-being and

fertility intentions and analyzing how subjective well-being affects fertility intentions at different income levels. Furthermore, considering the heterogeneity among individuals, this study will also conduct heterogeneity analyses based on gender and marital status to provide a more comprehensive understanding. Given the limitations and gaps in existing research, this study focuses on women of childbearing age, aiming to explore in depth how different dimensions of subjective well-being influence their fertility intentions. It also investigates the potential moderating effect of income level on this relationship. Through this approach, we hope to gain a more precise understanding of the motivations and preferences underlying the fertility intentions of women of childbearing age in China.

2.Literature review and hypothesis development

This study proposes to employ the theories of cost-utility and human capital to explore in depth how subjective well-being influences the fertility intentions of women of childbearing age in China. Based on these theories, a theoretical framework will be established to analyze the mechanisms through which subjective well-being affects fertility intentions. On the one hand, according to the cost-utility theory, individuals weigh the utility and costs associated with childbearing when making fertility decisions[7, 8].From the of perspective development experience, Brinton and Jennifer found that career women may lose opportunities for career advancement, job prospects, and potential income due to childbearing[9, 10].McDonald discovered that with economic development and rising living costs—particularly increases in housing prices and education expenses—the direct costs of childbearing also rise, which can inhibit fertility intentions[11].From the perspective of satisfaction experience, Petts found that good social support, such as childcare services, parental leave, and family-friendly work environments, can reduce the indirect costs of childbearing and enhance fertility intentions[12].From the perspective of physical and mental health experience, good physical health can lower the direct costs of childbearing, such as reducing pregnancy complications and childbirth risks, thereby decreasing medical expenses[13-15].Meanwhile, mental health issues such as depression and anxiety can increase the psychological costs of childbearing, such as worries and stress about parenting, thereby reducing fertility intentions[16].On the other hand, the human capital theory posits that personal income, as an important component of human capital, significantly influences fertility intentions by affecting the opportunity cost of childbearing[17].With the increasing educational levels and intensifying career competition among career women, they are more inclined to pursue career achievements, which leads to a higher opportunity cost of childbearing. Career women may lose opportunities for career advancement, job prospects, and potential income due to childbearing, and this increased opportunity cost may suppress their fertility intentions. Income status is an important factor influencing individual fertility intentions, as it directly determines whether women of childbearing age choose to have children or not[18].Higher income levels may lead individuals to place greater emphasis on improving their quality of life, focusing more on the quality rather than the quantity of children. The rising costs of raising children and the declining expected utility can result in a decreased demand for children.

Fig 1. Theoretical framework.



In all, this paper argues that different dimensions of subjective well-being may have varying impacts on the fertility choices of women of childbearing age, and that income level, as an important factor influencing fertility intentions, may moderate the relationship between subjective well-being and fertility intentions. Therefore, this study will conduct empirical analyses

to verify the above theoretical deductions, aiming to provide new perspectives and insights into understanding the fertility decisions of women of childbearing age.

This study aims to thoroughly explore the composition of subjective well-being and its various dimensional indicators and to analyze their relationships with fertility intentions. Firstly, the study employs factor analysis to explore the overall indicators of subjective well-being to reveal its underlying structural dimensions. Subsequently, factor analysis is conducted on the indicators of the three distinct dimensions of subjective well-being to identify their respective components. Based on this, descriptive analysis methods are used to provide preliminary statistical descriptions of the relevant variables, laying the foundation for subsequent in-depth analyses. Secondly, the study utilizes Poisson regression and ordered probability models to construct multiple regression models to investigate the impact of subjective well-being on fertility intentions. To test the moderating role of income level, interaction terms between income level and subjective well-being are included in the models. Finally, considering that different groups may have distinct characteristics, the study divides the subjects into two different levels—age and marital status—and conducts heterogeneity analyses. This step aims to reveal differences in the relationship between subjective well-being and fertility intentions across different groups, thereby providing a basis form formulating more targeted policies. Through this series of analytical methods, this study aims to provide a comprehensive and in-depth perspective on understanding the relationship between subjective well-being and fertility intentions.

In current research on fertility intentions, most studies focus on the levels, changes, and influencing factors of fertility intentions, with a greater emphasis on the quantitative dimension of fertility intentions in practical analyses. Based on this, the fertility intentions in this study are measured by the desired number of children. The core explanatory variable selected in this study is subjective well-being. In the China General Social Survey (CGSS)2021 questionnaire, the question related to subjective well-being is: D35, how much do you agree with the following statements regarding your subjective well-being?

To ensure the accuracy and interpretability of the model estimation results, this study introduces relevant moderating variables and multiple control variables. Based on the above analysis, the following hypotheses are proposed:

Hypothesis 1: Subjective well-being significantly affects the fertility intentions of women of childbearing age in China.

Subjective well-being is a composite measurement index composed of three indicators. Given that different groups may have varying experiences of development, satisfaction, and physical and mental health, these differences may lead to different impacts. Therefore, the following sub-hypotheses are proposed:

Hypothesis 1.1: The better the development experience, the stronger the fertility intentions of women of childbearing age in China.

Hypothesis 1.2: The higher the satisfaction experience, the stronger the fertility intentions of women of childbearing age in China.

Hypothesis 1.3: The better the physical and mental health experience, the stronger the fertility intentions of women of childbearing age in China.

Based on the above description, individual income levels have a close impact on the relationship between subjective well-being and fertility intentions. However, whether subjective well-being affects fertility intentions through income levels remains to be explored. Therefore, the following hypothesis is proposed:

Hypothesis 2: The income level of women of childbearing age in China will a have positive moderating effect on the impact of subjective well-being on fertility intentions.

3.Methods

3.1 Sample

The data foundation of this study originates from a long-standing and highly influential social science research project in China—the Chinese General Social Survey(CGSS).As one of the earliest national academic surveys in China, the CGSS has been systematically conducting questionnaire surveys on more than 10,000 households across provinces, municipalities directly under the central government, and autonomous regions of mainland China since 2003, in accordance with international standards. Implemented by the China Survey and Data Center of Renmin University of China, the openness of its data is pioneering in the academic community. According to regulations, all raw data and related materials are fully open

to the public within two years after each survey is completed. The data coverage of the CGSS is extensive, encompassing information at the societal, community, family, and individual levels, and it reflects the characteristics of the changing times. It provides rich materials for research in multiple fields and can accurately reflect the latest dynamics of Chinese society. This paper focuses on the fertility intentions of women of childbearing age in China. The study specifically employs the latest 2021 CGSS dataset, which includes 8,148 samples. After screening for the group of women of childbearing age in China, the sample size is reduced to 1,313.

The study primarily adopts factor analysis to systematically explore the construction of subjective well-being indicators. Not only does it conduct factor analysis on subjective well-being as a whole to identify its core components, but it also performs detailed factor analysis on the three dimensions of subjective well-being: development experience, satisfaction experience, and physical and mental health experience. The process is as follows.

1. KMO Test: The first step is to determine whether factor analysis is appropriate through the results of the KMO test. If the KMO value of all variables is greater than the critical value of 0.6, it indicates that these variables are suitable for factor analysis.

2. Factor Extraction: During the factor extraction process, the number of principal factors is determined based on the factor analysis results by selecting factors with eigenvalues greater than 1.

3. Factor Naming and Interpretation: First, the factor loadings matrix is analyzed. In this study, the varimax rotation method is used to orthogonally rotate the factor loadings matrix to enhance its interpretability. Second, based on the rotated factor analysis, the distribution of variables across different factors can be clearly explained. The rotated factor loadings matrix can further validate the rationality and reliability of the model.

4. Factor Score Calculation: According to the factor score table, principal factors can be expressed as linear combinations of the variables. The composite score of subjective well-being indicators is calculated by multiplying the variance contribution rate and cumulative variance contribution rate with the rotated factor scores.

According to Table 1, among the 1,313 women of childbearing age, the mean fertility intention is 1.8 children, close to two. This indicates that the desired number of children among women of childbearing age in China is currently two. Compared to the persistently low fertility rate, this level of fertility intention is relatively optimistic, suggesting that the actual fertility rate may increase in the future.

In this study, four dummy variables were constructed for subjective well-being and its three dimensions: development experience, satisfaction experience, and physical and mental health experience. Based on the 21 questions from the subjective well-being scale, iterative principal factor analysis was conducted. Factors with eigenvalues greater than 1 were retained, and factor scores were predicted. The composite score of subjective well-being and its three sub-dimensions was calculated by weighting and summing the factor scores using the cumulative variance contribution rate. The higher the resulting values, the stronger the subjective well-being and the better the experiences in development, satisfaction, and physical and mental health. As shown in the table, the level of happiness is relatively average, indicating that the happiness level, development experience, satisfaction experience, and physical and mental health experience of women of childbearing age in China are relatively ordinary, with a moderate sense of happiness.

In the descriptive statistics of personal income levels, the mean is 7.6, corresponding to the specific income level of 5,000 yuan. This suggests that the personal income level of women of childbearing age in China is relatively objective. This may also be due to the increased level of education, which has promoted the rise in personal income. Among the survey respondents, the youngest is 18 years old, and the oldest is 50 years old, covering almost all women of childbearing age. The average age is 37, indicating that a larger proportion of the 1,313 women are over 30 years old. The average value for ethnicity is 0.9, showing that the majority of respondents are Han Chinese. The average value for religious belief is 0.06, indicating that most respondents do not have a religious belief. The average value for political affiliation is 0.18,showing that a relatively small proportion of respondents are members of the Communist Party. The average value for household registration is 0.6, indicating that the proportion of rural and non-rural household registrations among respondents is relatively close. The average value for medical insurance is 0.9, suggesting that almost all respondents have participated

in medical insurance. The average value for marital status is 0.79, close to 0.8, meaning that only 20%of the 1,313 women of childbearing age are unmarried. The average value for self-rated health is 2.5, close to "fairly healthy", indicating that most respondents have a good self-rated health status. The average value for economic status is 2.47, between "middle" and "lower-middle or lower", suggesting that respondents have a relatively low evaluation of their economic status. The average value for social fairness is 1.58, between "fairly fair or completely fair" and "neither fair nor unfair", indicating that respondents have a relatively positive perception of social fairness, although there are still some differences.

Table 1. Variable statistics description

Variable	Sample	Mean	S.D.	Min	Max
Fertility Intention	1313	1.807	0.703	0	4.000
Subjective Well-being	1313	0.000	0.608	-2.13	2.030
Development Experience	1313	0.000	0.787	-3.23	2.100
Satisfaction Experience	1313	0.000	0.807	-2.8	2.120
Physical and Mental Health Experience	1313	0.000	0.876	-1.99	2.710
Income Level	1313	7.609	4.76	0	13.590
Age	1313	37.445	9.742	18	52.000
Ethnicity	1313	0.904	0.294	0	1.000
Religious Belief	1313	0.064	0.245	0	1.000
Political Affiliation	1313	0.182	0.386	0	1.000
Household Registration	1313	0.608	0.489	0	1.000
Medical Insurance	1313	0.938	0.241	0	1.000
Marital Status	1313	0.796	0.404	0	1.000
Self-rated Health	1313	2.593	0.611	1	3.000
Economic Status	1313	2.477	0.608	1	3.000
Social Fairness	1313	1.582	0.751	1	3.000

Source: CGSS 2021.

3.2 Statistical analysis

This paper explores the impact of subjective well-being on the fertility intentions of women of childbearing age in China, as well as the mechanisms through which this impact occurs. First, we examined the effects of subjective well-being and its four sub-dimensions—development experience, satisfaction experience, and physical and mental health experience—on fertility intentions. Second, based on the human capital theory, we introduced income level as a moderating variable to investigate its moderating effect on the impact of subjective well-being on the fertility intentions of women of childbearing age in China. Finally, we conducted a heterogeneity analysis by dividing the sample into different groups based on age and marital status, providing a more comprehensive investigation.

Overall, this paper analyzed the impact of subjective well-being and its three sub-dimensions—development experience, satisfaction experience, and physical and mental health experience—on fertility intentions. Since the fertility intention indicator, which is the desired number of children, is a discrete variable, a Poisson regression model is appropriate. Accordingly, we constructed four regression models, which are detailed as follows:

$$Y_i = \beta_0 + \beta_1 happiness_i + \sum_{m=1}^{n} \gamma_m X_{im} + \varepsilon_i \quad (1)$$

$$Y_i = \beta_0 + \beta_1 development_i + \sum_{m=1}^{n} \gamma_m X_{im} + \varepsilon_i \quad (2)$$

$$Y_i = \beta_0 + \beta_1 satisfaction_i + \sum_{m=1}^{n} \gamma_m X_{im} + \varepsilon_i \quad (3)$$

$$Y_i = \beta_0 + \beta_1 \text{mental}_i + \sum_{m=1}^{n} \gamma_m X_{im} + \varepsilon_i \quad (4)$$

In the equation above, Y_i represents the fertility intention of the i-th sample, i.e., the desired number of children; *happiness* denotes the core explanatory variable of this study, namely subjective well-being; *development* represents the development experience; *satisfaction* represents the satisfaction experience; *mental* represents the physical and mental health experience; x_{im} represents the control variables, including income level, age, ethnicity, religious belief, political affiliation, household registration, medical insurance, marital status, self-rated health, economic status, and social fairness, among others; ε_i represents the influence of other random factors, that is, the random error term. Among these, β_1 is the regression coefficient of the explanatory variable, and γ_m is the regression coefficient of the control variables.

Subsequently, we conducted regression analysis using Stata software and performed robustness tests on the regression results. To further analyze the moderating effect of income level on the relationship between subjective well-being and fertility intentions, we constructed a moderation model based on the benchmark regression model. The specific model is as follows:

$$Y_i = \beta_0 + \beta_1 \text{happiness}_i + \beta_4 \text{income}_i + \beta_5 (\text{happiness}_i \times \text{income}_i) + \sum_{j=1}^{n} \gamma_j X_{ij} + \varepsilon_i \quad (5)$$

In the model, income represents the income level of the i-th sample (log-transformed value). happiness × income denotes the interaction term between subjective well-being and income level. The regression coefficient β_5 of this interaction term is used to evaluate whether income level moderates the relationship between subjective well-being and fertility intention. Guided by the analytical framework of human capital theory, this study incorporates income level as moderating variables to investigate their regulatory effects on the influence of subjective well-being on fertility intention. Specifically, the interaction terms between education level, income level, and subjective well-being are included in the regression model for empirical testing.

4.Results

4.1 Regression Analysis of Fertility Intention

First, a basic regression analysis was conducted on the dependent variable, fertility intention. As shown in Table 2, the effects of subjective well-being and its three sub-dimensions developmental experience, fulfillment experience, and physical and mental health experience—on fertility intention are presented. Through stepwise regression, variables related to individual characteristics, health status, and social perceptions were incrementally introduced, ultimately generating the four models summarized in the table. The results demonstrate that the gradual inclusion of these variables improved model fit across the four models.

According to Table 2, in Model 1, the regression coefficient of subjective well-being on fertility intention is 0.062, which is statistically significant at the 1% level. This indicates that, ceteris paribus, higher subjective well-being is associated with stronger fertility intentions among women of reproductive age. Interpretation of Findings: 1. Psychological Stability and Family Expansion: Women with higher subjective well-being may exhibit greater psychological health and emotional stability, fostering a stronger desire to expand their families. Mental well-being and emotional resilience are critical factors for successful parenting, which may incentivize these women to pursue childbearing. 2. Social Support and Public Services: High subjective well-being may reflect satisfaction with societal support systems and public services. For instance, accessible healthcare, education, and childcare resources can alleviate parenting burdens, thereby encouraging higher fertility intentions[19]. 3. Life Satisfaction and Readiness: Women with elevated life satisfaction are likely more content with their current circumstances—including marital, career, and financial stability—which may increase their willingness to add children to their households[20]. 4. Economic Security: Improved subjective well-being often correlates with better economic conditions. Household income levels exhibit a positive relationship with fertility intentions. When women perceive economic security, they are more confident in their ability to bear childrearing costs, further enhancing fertility intentions[21, 22].

Model 2: The regression coefficient for developmental experience is 0.0004, which is statistically insignificant. This suggests

that developmental experience has a weak influence on fertility intention. Potential explanations include: 1. Shift in Fertility Norms: Traditional childbearing values are being supplanted by modern priorities. Some women of reproductive age may prioritize career advancement and quality of life over childbearing, thereby reducing fertility intentions[23]. 2. Educational Attainment: Higher education levels are often associated with lower fertility intentions. Educated women typically exhibit stronger aspirations for self-actualization, favoring professional growth and personal interests over parenthood as a primary life goal[24, 25]. 3. Work-Family Conflict: Career-oriented women may face dual pressures from occupational and familial responsibilities, forcing trade-offs between career progression and childbearing. This dilemma is exacerbated by insufficient childcare services and societal support, further discouraging fertility intentions.

Model 3: The regression coefficient for fulfillment experience is -0.0166, which is also insignificant, indicating a minimal effect on fertility intention. Possible reasons include: 1. Economic Constraints: In developed regions, abundant employment opportunities coexist with high childrearing costs, potentially suppressing fertility intentions. Conversely, in less developed areas, traditional fertility norms may persist despite economic challenges, sustaining higher fertility intentions. 2. Evolving Views on Elderly Support: Some women may no longer perceive childbearing as the sole safeguard for old-age security, opting instead for alternative future-planning strategies (e.g., financial investments or social welfare systems), thereby diminishing their inclination to bear children.

Model 4: The regression coefficient for physical and mental health experience is 0.0513, significant at the 1% level. This underscores that better physical and mental health correlates with stronger fertility intentions. Key drivers include: 1. Health and Resource Availability: Robust health, interpersonal adaptability, and a supportive family environment provide critical resources for childcare while mitigating stressors. Women in good health are more likely to perceive themselves as capable of managing the demands of childrearing. 2. Social and Familial Support: Strong interpersonal skills enable women to secure essential social and familial assistance, a vital factor in nurturing children[26, 27].

Analysis of Control Variables

1.Individual Characteristics

Age: Exhibits a positive effect on fertility intention across all models, significant at the 10% or 5% level. Older women of reproductive age demonstrate stronger fertility intentions. This may reflect increased familial and societal expectations with age, prompting women to prioritize childbearing. Additionally, older women often achieve greater economic stability, providing a stronger financial foundation for childrearing[28, 29]. Maturity may also enhance confidence in offering a nurturing environment for children. Ethnicity: Shows a negative effect on fertility intention, significant at the 1% level, indicating lower fertility intentions among Han Chinese women. This likely stems from cultural and traditional differences across ethnic groups that shape fertility norms. Religious Affiliation: Positive but insignificant coefficients across models suggest limited influence. Modern religious diversity and divergent doctrinal views on childbearing may dilute religion's overall impact.

2.Political Affiliation

Insignificant coefficients in all models imply minimal relevance to fertility intentions. Household Registration (Hukou) and Marital Status: Both show positive effects, significant at the 1% level. Rural residency aligns with traditional pronatalist norms, while married women benefit from stable family structures and spousal support, fostering stronger fertility intentions [30].

3.Health Status

Self-Rated Health: Coefficients are insignificant in most models, except in Model 1 (significant at 10%). This instability may arise from subjective variability in health perceptions or short-term fluctuations (e.g., recent illnesses) affecting self-assessments. Health Insurance: Insignificant across models, likely because medical insurance primarily covers routine or critical care, whereas maternity-specific costs are addressed by dedicated childbirth insurance programs.

4.Social Perceptions

Economic Status and Social Equity: Insignificant coefficients suggest weak direct effects. Subjective socioeconomic evaluations (e.g., personal satisfaction) may outweigh objective economic status in shaping fertility intentions. Psychological well-being and life satisfaction likely play more pivotal roles than broader societal equity.

The regression results partially support Hypothesis 1: Subjective well-being significantly influences fertility intentions among

Chinese women of reproductive age, particularly through the physical and mental health experience dimension. However, developmental experience and fulfillment experience show insignificant effects, failing to support Hypotheses 1.1 and 1.2. Key control variables—age, ethnicity, household registration, and marital status—emerge as critical determinants of fertility intention.

Table 2. Basic Regression Results

Variable	Model 1	Model 2	Model 3	Model 4
Subjective Well-being	0.0622***			
	-2.7131			
Development Experience		0.0004		
		-0.0168		
Satisfaction Experience			-0.0166	
			(-0.7514)	
Physical and Mental Health Experience				0.0513***
				-2.8383
Age	0.0037*	0.0042**	0.0043**	0.0040**
	-1.8601	-2.1018	-2.1271	-2.0055
Ethnicity	-0.1975***	-0.1943***	-0.1927***	-0.1962***
	(-3.1091)	(-3.0291)	(-3.0118)	(-3.1166)
Religious Belief	0.0744	0.0811	0.0832	0.0703
	-1.2438	-1.3341	-1.3608	-1.1656
Political Affiliation	0.0402	0.0402	0.0421	0.0482
	-0.7514	-0.7404	-0.7762	-0.8909
Household Registration	0.1096***	0.1167***	0.1167***	0.1143***
	-3.1545	-3.3522	-3.3548	-3.3211
Medical Insurance	-0.0883	-0.0759	-0.0756	-0.084
	(-1.3519)	(-1.1517)	(-1.1627)	(-1.3118)
Marital Status	0.2562***	0.2452***	0.2466***	0.2588***
	-3.9158	-3.7449	-3.7842	-3.9176
Self-rated Health	0.0063	-0.0091	-0.0058	0.0165
	-0.2124	(-0.3070)	(-0.1970)	-0.5355
Economic Status	0.012	0.0157	0.011	0.0079
	-0.4583	-0.5773	-0.3974	-0.2993
Social Fairness	-0.0362	-0.035	-0.0392*	-0.0420*
	(-1.6392)	(-1.5601)	(-1.7332)	(-1.8911)
Constant	0.4310***	0.4306**	0.4352***	0.4010**
	-2.5858	-2.5463	-2.6012	-2.3869
Observations	1313	1313	1313	1313

Notes: * p<0.1, **p<0.05, *** p<0.01.

The study initially concludes that subjective well-being has a significantly positive impact on the fertility intentions of Chinese women of childbearing age. To further verify the robustness of this conclusion, we conducted regression analysis using an ordered probit model. As shown in Table 3, in Model 1, the regression coefficient of subjective well-being is 0.2166 with a t-value of 2.8203, which is statistically significant at the 1% level. This further validates Hypothesis 1: The subjective well-being of Chinese women of childbearing age significantly influences their intended number of children. In Model 2, the regression coefficient for developmental experience is 0.0129 with a t-value of 0.1827, which is not significant. This indicates that developmental experience has a weak effect on fertility intentions, failing to support Hypothesis 1.1: Better developmental experiences among Chinese women of childbearing age correlate with a higher intended number of children. In Model 3, the regression coefficient for satisfaction experience is -0.0480 with a t-value of -0.7029, also insignificant. This suggests that satisfaction experience minimally affects fertility intentions, thereby not supporting Hypothesis 1.2: Greater satisfaction experiences among Chinese women of childbearing age are associated with a higher intended number of children. In Model 4, the regression coefficient for physical and mental health experience is 0.1738 with a t-value of 2.9348, significant at the 1% level. This demonstrates that women with better physical and mental health have stronger fertility intentions, confirming Hypothesis 1.4: Improved physical and mental health experiences among Chinese women of childbearing age correlate with a higher intended number of children.

In summary, the results from the ordered probit model regression analysis further support Hypothesis 1, indicating that the subjective well-being of Chinese women of childbearing age significantly affects their intended number of children, particularly with physical and mental health experiences showing a robust positive influence. However, developmental and satisfaction experiences exhibit negligible effects on fertility intentions, failing to validate Hypotheses 1.1 and 1.2. These findings suggest that while overall subjective well-being and physical and mental health experiences significantly shape fertility intentions, developmental and satisfaction experiences play a comparatively minor role.

Table 3. Robustness Test Results

Variable	Model 1	Model 2	Model 3	Model 4
Subjective Well-being	0.2166***			
	-2.8203			
Development Experience		0.0129		
		-0.1827		
Satisfaction Experience			-0.048	
			(-0.7029)	
Physical and Mental Health Experience				0.1738***
				-2.9348
Age	0.0118*	0.0133**	0.0135**	0.0129**
	-1.8027	-2.043	-2.0719	-1.9762
Ethnicity	-0.5962***	-0.5818***	-0.5785***	-0.5926***
	(-2.7552)	(-2.6751)	(-2.6731)	(-2.7571)
Religious Belief	0.337	0.3533	0.3619	0.3251
	-1.5545	-1.607	-1.6426	-1.4842
Political Affiliation	0.121	0.1191	0.1292	0.1511
	-0.7846	-0.7672	-0.8308	-0.9635

Variable	Model 1	Model 2	Model 3	Model 4
Household Registration	0.3496***	0.3687***	0.3679***	0.3650***
	-3.2615	-3.4609	-3.4565	-3.4263
Medical Insurance	-0.3185	-0.2708	-0.2681	-0.3037
	(-1.3943)	(-1.1893)	(-1.1904)	(-1.3612)
Marital Status	0.7277***	0.6851***	0.6914***	0.7393***
	-4.3336	-4.1297	-4.175	-4.3439
Self-rated Health	0.0166	-0.0367	-0.0247	0.049
	-0.1744	(-0.3846)	(-0.2614)	-0.4966
Economic Status	0.0337	0.0454	0.0302	0.0215
	-0.3953	-0.5205	-0.3416	-0.2506
Social Fairness	-0.1138*	-0.1085	-0.1217*	-0.1332*
	(-1.6699)	(-1.5878)	(-1.7559)	(-1.9458)
Observations	1313	1313	1313	1313

Notes: * p<0.1, **p<0.05, *** p<0.01.

4.2 Test of Moderating Effects

Based on the analysis of human capital theory, this study examines income level as a moderating variable to investigate its moderating effects on the relationship between subjective well-being and fertility intentions. The interaction term between income level and subjective well-being was incorporated into the regression model.

Table 4. Test Results

Variable	Model 5
Subjective Well-being	0.0600***
	-2.6316
Income × Happiness	0.0350**
	-1.9969
Age	0.0041**
	-2.0421
Ethnicity	-0.1922***
	(-3.0330)
Religious Belief	0.0764
	-1.2695
Political Affiliation	0.0444
	-0.8329
Household Registration	0.1045***
	-2.9503

Variable	Model 5
Medical Insurance	-0.0984
	(-1.5014)
Marital Status	0.2554***
	-3.9297
Self-rated Health	0.0037
	-0.1251
Economic Status	0.0147
	-0.5544
Social Fairness	-0.0357
	(-1.6073)
Constant	0.4551***
	-2.6991
Observations	1313

Notes: * p<0.1, **p<0.05, *** p<0.01.

According to Table 4 (Model 5), the regression coefficient of subjective well-being is 0.0600, significant at the 1% level, indicating that subjective well-being has a positive effect on fertility intentions. The interaction term between income level and subjective well-being yields a coefficient of 0.0350, significant at the 5% level, suggesting that income level exerts a positive moderating effect on the relationship between subjective well-being and fertility intentions. This implies that higher income levels strengthen the positive influence of subjective well-being on fertility intentions among childbearing-age women, thereby validating Hypothesis 2.

4.3 Heterogeneity Analysis

When facing fertility issues, differences among individuals lead to varying views on fertility intentions. Age differences, for example, represent the distinct perspectives on fertility intentions among individuals at different stages of life. Younger individuals, influenced by the evolving era, may have significant differences in fertility intentions compared to older individuals. These differences can be attributed to variations in education, living environments, and the information received through the internet[31].Additionally, there are differences in fertility intentions between individuals who have been married and those who have never been married. Generally, those who have been married are more likely to have children, while those who have never been married may hold different views on fertility for various reasons.

To further explore the heterogeneous impact of subjective well-being on the fertility intentions of women of childbearing age across different age groups, a subgroup regression analysis was conducted on 1,313 observations to verify the heterogeneity by gender The estimation results are shown in Table 5. Table 5 illustrates the differences in the impact of subjective well-being on fertility intentions across different age groups. In the age heterogeneity test, the sample was divided into a younger age group and an older age group for regression analysis. For the older age group (Model 1), the regression coefficient of subjective well-being was 0.0541, which was significant at the 10% significance level), indicating that subjective well-being has a positive impact on fertility intentions in this group. For the younger age group (Model 2), the regression coefficient of subjective well-being was 0.0801, which was significant at the 5% significance level, indicating that the positive impact of subjective well-being on fertility intentions is more pronounced in this group. Therefore, it can be concluded that although subjective well-being has a positive impact on fertility intentions for women of all ages, this impact is more significant in the younger age group.

Table 5 Age-Results

	Older Age Group	Younger Age Group
	Fertility Intention	**Fertility Intention**
Subjective Well-being	0.0541*	0.0801**
	-1.7411	-2.2245
Age	0.0002	0.0007
	-0.0351	-0.108
Ethnicity	-0.2412**	-0.1242*
	(-2.1561)	(-1.6842)
Religious Belief	-0.0375	0.2487**
	(-0.7194)	-2.3513
Political Affiliation	0.1278*	-0.0087
	-1.7861	(-0.1197)
Household Registration	0.1302***	0.1052**
	-2.8997	-2.005
Medical Insurance	-0.1632***	0.0344
	(-2.6223)	-0.2891
Marital Status	0.105	0.2685***
	-0.6779	-3.4643
Self-rated Health	-0.0117	0.0325
	(-0.3170)	-0.633
Economic Status	0.0189	-0.0048
	-0.5798	(-0.1153)
Social Fairness	-0.0133	-0.0674*
	(-0.5601)	(-1.7150)
Constant	0.8306**	0.3476
	-2.4571	-1.0967
Observations	637	676

Notes: * p<0.1, **p<0.05, *** p<0.01.

To further investigate the heterogeneity of the impact of subjective well-being on fertility intentions among women of childbearing age under different marital statuses, a split-sample regression analysis was conducted on 750 observations to validate the heterogeneity across marital statuses. The estimation results are presented in Tables 5.

Table 6 illustrates the differences in the effect of subjective well-being on fertility intentions across marital statuses. In the marital status heterogeneity test, the sample was divided into unmarried and married groups for regression analysis. For the

unmarried group (Model 1), the regression coefficient of subjective well-being was -0.0459 but statistically insignificant, indicating that subjective well-being has no significant effect on fertility intentions among unmarried women. For the married group (Model 2), the regression coefficient of subjective well-being was 0.0714, significant at the 1% level, suggesting that subjective well-being exerts a significantly positive influence on fertility intentions among married women. These results demonstrate that the impact of subjective well-being on fertility intentions is more pronounced in married women, while its effect on unmarried women remains statistically negligible.

Table 6 Marital Status -Results

	Unmarried	**Married**
	Fertility Intention	**Fertility Intention**
Subjective Well-being	-0.0459	0.0714***
	(-0.4480)	-3.1521
Age	0.0101	0.0029
	-1.4679	-1.449
Ethnicity	-0.4241***	-0.1475**
	(-2.9661)	(-2.2163)
Religious Belief	0.39	0.0596
	-1.1049	-1.1328
Political Affiliation	0.0374	0.0591
	-0.3294	-1.02
Household Registration	0.1297	0.1124***
	-1.1598	-3.2727
Medical Insurance	0.3889	-0.1389**
	-0.9515	(-2.4063)
Self-rated Health	0.1245	-0.0123
	-0.9355	(-0.4263)
Economic Status	0.1545	-0.0084
	-1.4408	(-0.3293)
Social Fairness	-0.0717	-0.024
	(-0.8724)	(-1.1420)
Constant	-0.665	0.7983***
	(-0.9976)	-5.3174
Observations	282	1031

Notes: * p<0.1, **p<0.05, *** p<0.01.

5.Discussion

5.1 Theoretical implications

Based on the cost–utility theory, this study conducted an analysis to explore the causal relationship between subjective well-being and fertility intentions. It constructed a theoretical framework that illustrates how subjective well-being and its different dimensions influence fertility intentions. This research enriches the existing studies on the factors affecting fertility intentions

and provides references for subsequent research. It has significant theoretical implications for improving China's population structure and promoting long-term balanced population development. This study also serves to refine and complement the current research in this area.

5.2 practical implications

The current population issue has become a critical challenge in China's development process. Enhancing people's willingness to have children and translating this willingness into actual fertility behaviors are of paramount importance for improving China's population structure, addressing population aging, and promoting long-term balanced demographic development. An economic growth model centered on boosting residents' well-being can not only strengthen fertility intentions—thereby alleviating China's current low fertility rate—but also holds practical significance for maintaining future demographic dividends and driving economic progress. Furthermore, optimizing fertility policies, establishing and improving supportive fertility policy systems, and fostering long-term balanced population development from the perspective of enhancing residents' quality of life carry substantial reference value for China.

By analyzing the impact of subjective well-being on fertility intentions and examining the actual status of China's fertility intentions, exploring the specific mechanisms through which subjective well-being influences fertility decisions could unveil novel approaches to boost fertility rates. Simultaneously, scientifically understanding China's current fertility levels and challenges related to fertility intentions holds critical practical significance for implementing the "establishment of a fertility support policy system and proactive response to population aging" proposed in the report of the 20th National Congress of the Communist Party of China, as well as achieving the goals of "improving people's quality of life and realizing population modernization."

6. Conclusion

Empirical analysis reveals that subjective well-being exerts a significant positive impact on the fertility intentions of Chinese women of childbearing age. Specifically, psychological and physical health experiences—such as emotional stability, life satisfaction, and perceived physical wellness—strongly correlate with higher willingness to have children. This suggests that women who feel mentally resilient and physically capable are more likely to view childbearing as a feasible and fulfilling life goal. However, dimensions like developmental experiences (e.g., career advancement opportunities) and satisfaction with material conditions show no statistically significant influence on fertility intentions. This indicates that immediate personal well-being, rather than long-term developmental prospects or material comforts, plays a more decisive role in shaping reproductive decisions.

The moderating role of income level in the relationship between subjective well-being and fertility intentions is context-dependent. For higher-income groups, elevated subjective well-being further amplifies fertility intentions, as financial security reduces anxieties about childcare costs and enhances confidence in providing a high-quality upbringing. Conversely, among lower-income populations, even high subjective well-being may not translate into stronger fertility intentions due to persistent economic constraints, such as housing affordability and educational expenses. This highlights the need for targeted economic support policies to bridge the gap between well-being and actual fertility behavior in disadvantaged groups.

Disparity analysis uncovers notable differences in how subjective well-being affects fertility intentions across age groups and marital statuses. Younger women (20–30 years old) exhibit a stronger sensitivity to subjective well-being when making fertility decisions, likely due to their focus on balancing personal well-being with early-stage career and family planning. In contrast, older women (31–40 years old) prioritize practical factors like childcare resources and work-life balance. Additionally, married women's fertility intentions are more responsive to subjective well-being compared to unmarried women, as marriage often provides a stable relational foundation that reinforces confidence in parenting.

To address low fertility rates, a multi-pronged strategy is essential: Cultivate a Pro-Fertility Social Environment: Promote societal narratives that normalize and celebrate parenthood through media campaigns and public education, reducing stigma around maternal career interruptions and paternal caregiving roles. Enhance Social Support Systems: Expand accessible childcare services, extend parental leave policies, and subsidize fertility-related healthcare to alleviate the practical burdens of childrearing. Strengthen Mental Health Infrastructure: Invest in community-based mental health programs to improve

psychological well-being, particularly targeting stress management for prospective parents. Implement Income-Sensitive Incentives: Design tiered financial incentives, such as tax breaks or housing subsidies, tailored to different income groups to mitigate economic barriers to fertility.

By integrating well-being-centered policies with structural reforms to reduce parenting costs, China can transform abstract fertility intentions into tangible demographic resilience, fostering sustainable population development in alignment with its modernization goals.

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