Is the Influence of Human Capital on Fertility Intentions Channeled through Subjective Well-being?

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Abstract

In recent years, the global challenge of low fertility rates has underscored the critical role of fertility intentions in predicting behavior. A growing body of research is devoted to exploring the determinants of fertility intentions from an individual-centered perspective. This study integrates the areas of human capital, subjective well-being, and fertility intentions to shed light on their interrelationships. Four hypotheses are proposed: the impact of human capital on fertility intention, the impact of human capital on subjective well-being, the impact of subjective well-being on fertility intention, and the mediating role of subjective well-being in the link between human capital and fertility intention. The data were collected through questionnaire surveys in four Chinese provinces — Guangdong, Shandong, Henan, and Sichuan. The results show that both human capital and subjective well-being have a positive influence on fertility intention, with subjective well-being acting as a partial mediator. Particularly noteworthy is the mediation analysis, which fills a gap in the previous literature by demonstrating the partial mediation of subjective well-being in the relationship between human capital and fertility intentions.

These research findings have important implications for the formulation of targeted public policies. By improving individuals' human capital through interventions such as educational programs, employment initiatives, and social support mechanisms, policy makers can indirectly influence fertility intentions by promoting improvements in subjective well-being.

Keywords: subjective well-being; fertility intention; human capital; China

Introduction

The continuing decline in the birth rate has become a major global problem. According to Bernardi, Mynarska and Rossier (2014); Vollset et al. (2020), the global total fertility rate would fall to 1.66 children per woman by 2100, well below the replacement level of 2.1. Population growth would also decline in China, with a projected fertility rate of 1.47 in 2100. Research suggests that fertility rates in less developed countries are declining significantly (Timæus & Moultrie, 2020). The study of fertility intention is justified by its recognized predictive value for behavior at the individual level (Schoen et al., 1999). Cognitive–social models assume that decisions about childbearing are influenced by institutional and cultural contexts, the intention to have children oneself, and competing priorities in areas such as education, employment, relationships, and leisure (Bachrach & Morgan, 2013). Hashemzadeh et al. (2021) found that the fertility decision is a multifaceted process influenced by social, economic, political, and personal factors, including access to quality and affordable childcare, cultural norms, personal beliefs and compatibility with one's partner (Abma & Martinez, 2006; Clarke & Hammarberg, 2005; Mills et al., 2011; Proudfoot, Wellings, & Glasier, 2009). Bernardi, Mynarska and Rossier (2014) pointed out that a person's level of education has a direct influence on fertility intention. In addition, Zhang and Gong (2022) believe that a person's basic social security and commercial insurance affect their fertility intentions. People with different skill levels have different childbearing intentions. (Kreyenfeld et al., 2022). Furthermore, Kraus et al. (2012) found that the fertility decisions of individuals with higher subjective socioeconomic status are more likely to be determined by their internal states, personal goals, and emotions. In addition, personal beliefs or personal values and preferences have an influence on fertility (Alesina, Giuliano, & Nunn, 2013). Cvancarova et al. (2009) confirmed that people with health problems tend to have a lower desire to have children than healthy people. This underlines the crucial influence of individual–level factors on fertility intention.

In this study, the influence on fertility intention is examined using the two dimensions of explicit and implicit human capital, with subjective well–being introduced as a mediating variable. Such an analysis is intended to shed light on the direction policy measures to promote childbearing and security should take, while at the same time improving understanding of the different needs of people with different levels of human capital. The subjects of this study were men and women aged 20–49 from five provinces in China, as they are the core population for fertility.

Research Objectives

1. Human capital influences on fertility intention.

2. Human capital influences subjective well-being.

3. Subjective well-being influences fertility intention.

4. Subjective well-being mediates between human capital and fertility intention.

Literature Review

The composition of human capital in this article includes explicit human capital and implicit human capital. Gratton and Ghoshal (2003) defined human capital as individual intellectual capital and the implicit social and emotional capital of organizations and individuals. Zhang and Cui (2020) considered educational attainment and insurance as explicit human capital. Yu, Zhao and Chen (2011), Zhang and Cui (2020) pointed out that the implicit elements of human capital are more original and fundamental and are the cornerstone of explicit human capital. Channar, Talreja and Bai (2015) showed that there is a significant positive correlation between the development of tacit human capital, such as employee work skills and employee and customer satisfaction, and that it is closely related to organizational performance. Zhang (2017) pointed out that the development of tacit human capital is the key to improving the core competitiveness of the new generation of farmers. Roy, Morton and Bhattacharya (2018) found that tacit human capital such as non-cognitive skills can change the development path of young women's education and income. Subjective well-being encompasses people's self-reported assessments of their own well-being, evaluations of environmental conditions, behavioral responses, and the subjective consequences of this process (Michaelson, Mahony & Schifferes, 2012). Fertility intentions are divided into three parts in this study: Whether a person wants to have children, how many children they want to have, and how soon they want to have them. The dependent variable is the fertility intention questionnaire by Brzozowska and Beaujouan (2021) and the fertility intention prediction model by Miller (2011).

The Relationship between Human Capital and Fertility Intention

Zhang and Cui (2020) believe that human capital has a subtle influence on fertility intentions and behavior. In the field of education, Testa (2014) found a positive relationship between a woman's education level and her lifetime fertility intention. In addition, Zhao (2019) pointed out that after the demographic transition, a large number of studies in developed countries have found that women's education level is positively correlated with fertility level. The reason for

this could be that in families with a higher level of education, relationships between the sexes are more harmonious, which leads to a higher fertility rate. However, based on an empirical analysis, Feng (2010) assumes that the level of education has no influence on fertility intention. In addition, participation in basic medical insurance significantly increases fertility intention among rural migrants in China (Xing et al., 2022). Shreffler et al. (2016) showed that women in more specialized occupations (e.g., with higher prestige, autonomy, complexity, and supervisory roles) were more likely to postpone childbearing than women in occupations with lower values for specialized characteristics. However, women in specialized occupations did not want fewer children and had higher fertility intentions. Similarly, Lim (2021) showed that higher socioeconomic status facilitated the transition to parenthood and second childhood. Miller and Pasta (1995) believed that women's fertility attitudes, subjective norms, and behavioral control have a significant impact on differences in fertility intentions and behavior. In terms of health, physical health has a significant impact on fertility intentions (Hashemzadeh et al., 2021). Tanskanen and Rotkirch (2014); Yoon (2017) concluded that people with family support from parents or in-laws are more likely to have a desire to have children. To summarize, there are many factors that influence fertility intention and different conclusions can be drawn depending on the research subject and method. Human capital is a second-order variable in this study and includes the following seven dimensions: Education, insurance, skills, socioeconomic status, fertility attitudes, health, and social trust and support. Human capital is measured from the different perspectives of explicit capital (education and insurance) and implicit human capital (skills, socioeconomic status, fertility attitudes, health and social trust and support).

The Relationship between Human Capital and Subjective Well-being

Witter et al. (1984) found that the level of education is positively associated with subjective well-being. This correlation was more pronounced in women and older adults. In addition, Kristoffersen (2018) concluded that subjective well-being is related to economic status and health status. Yakovlev and Leguizamon (2012) found that higher education has a positive influence on subjective affect. In addition, Tan et al. (2020) reported that socioeconomic status has a strong influence on subjective well-being. Furthermore, Ngamaba, Panagioti and Armitage (2017) found in their research that health has a strong positive relationship with subjective well-being, especially in developing countries. Most studies have used a similar set of determinants, including income, education, health, marital status and employment.

The Relationship between Subjective Well-being and Fertility Intention

Subjective well-being has been found to have an influence on fertility intentions (Matsuo & Matthijs, 2016; Vignoli, Mencarini & Alderotti, 2020). Matsuo and Matthijs (2016) believed that objective factors of well-being at the individual level, such as education level and employment status, have a greater influence on fertility intentions than subjective well-being at the individual level. Vignoli, Mencarini and Alderotti (2020) argued that the influence of jobs with insecure conditions on fertility intentions can be controlled by the individual level of subjective well-being. In addition, Luppi (2016) found that dissatisfaction with family and work can lead to a lower willingness to have a second child among women. A person's subjective well-being has been shown to be positively associated with reproductive behavior (Le Moglie, Mencarini & Rapallini, 2015). However, when examining the effects of subjective well-being on fertility intention, many papers use statistical analysis methods to evaluate panel data, and few papers focus on examining individual subjective well-being. This article uses the modified BBC Scale of Subjective Well-Being (BBC-SWB) by Myrskylä and Margolis (2014) and focuses on the study of individual subjective well-being.

Subjective Well-being as a Mediator to Affect Fertility Intention

The literature review shows that subjective well-being as a mediating variable influences fertility intention. Vignoli, Mencarini and Alderotti (2020) confirmed that the influence of job insecurity on fertility intention is mediated by subjective well-being and that job insecurity has a strong relationship with individual human capital levels. In addition, Pertold-Gebicka (2022) found that parents' subjective well-being reflects the subjectively perceived costs and benefits of having children and is seen by many as a proxy for the benefits. The financial and time costs of raising children contribute to a reduction in happiness for many parents and indirectly influence the desire to have children. That is, parents with higher socioeconomic status and those living in countries with generous family support generally have a positive fertility intention. In addition, Xiao, Chang and Lian (2023) have shown that happiness plays an important mediating role between residential mobility and fertility intention. Higher residential mobility means lower human capital, which leads to lower subjective well-being and lower fertility intentions.

To summarize, many studies have examined the effects of human capital on fertility intentions along various dimensions, including education, insurance, skills, socioeconomic status, fertility attitudes, health, and social trust and support. In addition, subjective well-being was also found to have an impact on fertility. Although some papers examine the mediating role of

subjective well–being on human capital and fertility intention, they only conduct research based on the single dimension of human capital. In this paper, human capital is used as an overarching variable to examine the effects of human capital on fertility intention and the mediating role of subjective well–being based on seven different dimensions. This not only improves the category of human capital, but also deepens the mediating role of subjective well–being.

Conceptual Framework

The framework and assumptions of this article are therefore as follows:
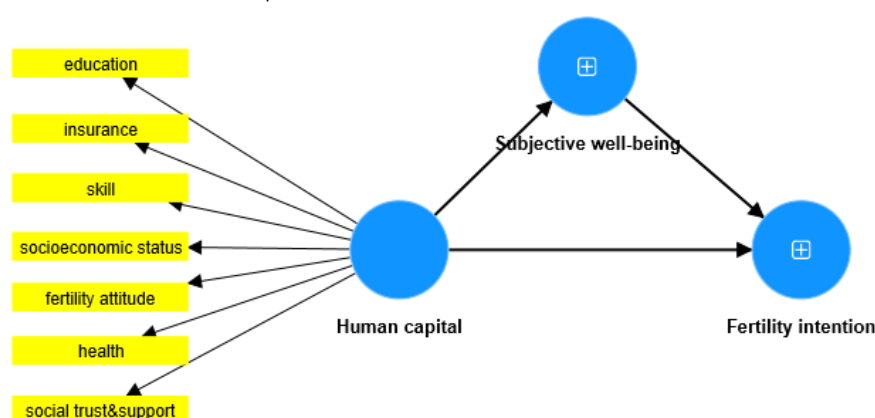

Figure 1 Conceptual Framework

Table 1 Research Hypothesis

Hypothesis	Contents
Hypothesis 1	Human capital influences fertility intention (HC⟶FI).
Hypothesis 2	Human capital influences subjective well–being (HC⟶SWB).
Hypothesis 3	Subjective well–being influences fertility intention (SWB⟶FI).
Hypothesis 4	Subjective well–being mediates between human capital and fertility intention (HC⟶SWB⟶FI).

Research Method and Data

According to the statistics of China's Seventh National Population Census, the five most populous provinces (Guangdong Province, Shandong Province, Henan Province, Jiangsu Province, Sichuan Province) were selected to collect the questionnaires, which is meaningful to investigate the fertility intentions in the most populous provinces. The questionnaire is distributed to people aged 20–49. A two–stage sampling procedure was used. The first stage: four provinces were randomly selected from the top five provinces. The second stage: determining the sample size of

each province based on the proportion of its population. The sample size in each province was determined according to the proportion of each province. Bentler and Chou (1987), Kline (2015) recommend that the sample size should be 10 times the number of parameters (the ideal value is 20 times). A sample size of less than 5 times is not sufficient to perform significant tests of the model effects. A total of 46 parameters were considered in this study. Therefore, the number of questionnaires should be between 230 and 920. In this study, 920 samples were issued based on 20 samples. The final result is as follows (Table 2).

Table 2 Distribution Data of Population in Four Provinces

Province	Population	Proportion	Sample Size
Guangdong	1,260,130	0.307	282
Shandong	1,015,270	0.247	227
Henan	993,660	0.242	223
Sichuan	836,750	0.204	188
	4,105,810		920

The questionnaires were answered on a 5-point Likert scale (1. strongly disagree, 2. disagree, 3. somewhat agree, 4. agree, 5. strongly agree). In this article, the components of human capital are referred to as explicit human capital and implicit human capital. Human capital is a second-order reflexive construct consisting of seven dimensions: Education, skills, insurance, socioeconomic status, fertility attitudes, health, and social trust and support. Each dimension comprises four questions. This study was modified based on existing items. Subjective well-being is a mediating variable. In this study, the modified BBC Subjective well-being Scale (BBC-SWB) by Myrskylä and Margolis (2014) is used for subjective well-being. According to the modification, it contains a total of 22 items. Fertility intention is the dependent variable. Fertility intentions include the timing of the desire to have children, having children and the number of children (Miller, 2011), which contains three items. The following figure shows the operational definitions, the questionnaire items and the sources of all constructs of the model.

The aim of this study is to determine the relationship between human capital, subjective well-being and fertility intention. Previous work has interpreted the scope of human capital differently. In this article, human capital is a second-order construct that includes seven sub-dimensions, each with 4 items, namely education (Zhang & Cui, 2020), insurance (Zhang & Cui, 2020), skill (Zhang & Cui, 2020), socioeconomic status (Anderson, John, & Keltner, 2012), fertility

attitudes (Söderberg et al., 2013), health (Chin–Ching et al., 2018), and social trust & support (Chinese General Social Survey). The mediator for subjective well–being (SWB) contains a total of 22 items (Myrskylä & Margolis, 2014). The dependent variable is fertility intention, which according to Miller (2011) is divided into three items, namely childbearing, child number and child–timing.

The structural equation model is considered a very robust and powerful statistical tool in various disciplines (Hair et al., 2012) and is suitable for the statistical analysis of second–order models, which is why the SEM model was used in this study.

Research Results

Since the conceptual framework is a hierarchical component model in this study, in which human capital is a reflective–reflective second–order construct, the two–stage method is used for analysis. First, the first–order constructs are connected, and the values of latent variables scores are calculated based on the repeated indicator approach. Subsequently, connect the first–order constructs and the second–order construct.

Measurement Model Assessment

Stage 1: Lower–Order Construct Evaluation

(1) Factor loadings. Factor loading refers to "the extent to which each of the items in the correlation matrix correlates with the given principal component. None of the items in the study had a factor loading less than the recommended value of 0.50 (Hair et al., 2016). The factor loadings of the first order model range from 0.757 to 0.897, Hence, no items were further removed.

(2) Variance inflation factor statistic is utilized to assess multicollinearity in the indicators (Fornell & Bookstein, 1982). When the tolerance value is greater than or equal to 0.2 or the variance inflation factor value is less than or equal to 5, it means that there is no collinearity problem between indicators (Hair, Ringle, & Sarstedt, 2011). In the first stage, the minimum tolerance value is 0.298. The variance inflation factor values range from 1.813 to 3.351, all values are less than 5, which means no collinearity problem.

Table 3 Construct Reliability and Convergent Validity in First–Order Constructs

Construct	Cronbach's alpha	Composite reliability	Average variance extracted
Education	0.875	0.877	0.728
Fertility attitude	0.868	0.871	0.717
Fertility intention	0.851	0.852	0.770
Health	0.864	0.865	0.711
Insurance	0.856	0.856	0.698
Skill	0.852	0.853	0.693
Social trust &support	0.851	0.851	0.691
Socioeconomic status	0.862	0.862	0.707
Subjective well–being	0.970	0.970	0.613

(3) According to Marks and Karkouti (1996), reliability is defined as the extent to which a measuring instrument is stable and consistent. The two most commonly used methods for establishing reliability include Cronbach's alpha and composite reliability (CR). It is generally believed that Cronbach's alpha coefficient is >0.7, indicating that the internal homogeneity of the questionnaire measurement is good. Composite reliability refers to the consistency of variables within a facet. Generally speaking, its value needs to be > 0.7 (Bagozzi & Yi, 1988). As can be seen from Table 3, both Cronbach's alpha and composite reliability values in stage 1 are sufficient for the criterion.

(4) Convergent validity is the degree to which multiple attempts to measure the same concept are in agreement, the idea is that two or more measures of the same thing should covary highly if they are valid measures of the concept (Bagozzi, Yi & Phillips, 1991). For convergent validity, the average variance extracted from each construct should be higher than 0.50 (Hair, Ringle & Sarstedt, 2011). The average variance extracted value ranges from 0.613 to 0.770 (Table 3), which meets the requirement.

Table 4 Heterotrait – Monotrait Ratio (HTMT)

Construct	Education	Fertility attitude	Fertility intention	Health	Insurance	Skill	Social trust & support	Socioeconomic status	Subjective well-being
Education									
Fertility attitude	0.598								
Fertility intention	0.523	0.569							
Health	0.566	0.632	0.592						
Insurance	0.624	0.686	0.616	0.675					
Skill	0.594	0.666	0.595	0.649	0.700				
Social trust &support	0.584	0.702	0.607	0.63	0.694	0.667			
Socioeconomic Status	0.609	0.676	0.573	0.669	0.692	0.667	0.696		
Subjective well-being	0.528	0.571	0.751	0.559	0.603	0.571	0.586	0.584	

(5) Discriminant validity is the degree to which measures of different concepts are distinct. Henseler, Ringle and Sarstedt (2015) demonstrated through simulation studies that these methods do not reliably detect a lack of discriminant validity in common research situations. Therefore, these authors proposed an alternative method HTMT to analyze discriminant validity, which was also used in this study. Kline (2011) suggested a threshold of 0.85 or less, while Teo, Tsai and Yang (2013) recommend a liberal threshold of 0.90 or less. As can be seen from table 4, heterotrait – monotrait ratio values satisfied the criterion.

Stage 2: Higher Order Construct Evaluation

In stage two, use the latent variable scores of the lower-order components from stage one to create an estimate for the stage two model. For this purpose, locate the scores of lower-order constructs of the higher-order constructs and add these as new variables to the dataset.

These higher-order constructs were also validated as part of the measurement model assessment. Each of these constructs was assessed for reliability and convergent validity. Furthermore, the higher-order constructs were tested for discriminant validity with other lower-order constructs in the study as recommended by Sarstedt et al. (2019).

Table 5 Higher Order Construct Reliability and Convergent Validity

Constructs	Cronbach's alpha	Composite reliability	Average variance extracted
Fertility intention	0.851	0.852	0.770
Human capital	0.899	0.900	0.624
Subjective well-being	0.970	0.970	0.613

The reliability and convergent validity for all other constructs are established as the value for reliability is >0.70 and the average variance extracted is greater than 0.50 respectively (Table 5).

Table 6 Higher Order Discriminant Validity (Heterotrait – Monotrait Ratio)

Constructs	Fertility intention	Human capital	Subjective well-being
Fertility intention			
Human capital	0.721		
Subjective well-being	0.751	0.708	

Further to the evaluation of reliability and validity, the discriminant validity of the higher-order constructs with the lower-order constructs is also evaluated. As can be seen from Table 6, the heterotrait – monotrait ratio is also lower than 0.90, which means the results meet the criterion. Thus, the results for reliability and validity of the higher-order constructs show that both reliability and validity were established.

Structural Model Assessment

The structural model necessitates the assessment of predictive power, predictive relevance, and goodness of fit after the utilization of the repeated indicator approach to diminish the model's dimensionality. Subsequently, path analysis is conducted to validate the hypotheses.

Table 7 Explanatory Power

Predictors	Outcomes	R square	f square	Q square
Human capital	Subjective well-being	0.439	0.783	0.267
Subjective well-being	Fertility intention	0.524	0.121 0.260	0.400

(1) Predictive Power

The coefficients of determination R-squared and f-squared in PLS are normally used to measure the predictive power of the structural equation model. Research by Hair Jr, Babin and Anderson (2010) and others has shown that the presence of R-squared has three critical values of 0.25, 0.5 and 0.75 reflecting the strength of the explanation, representing weak, medium, and strong respectively. The interpretation of the effect size f-squared is the change in the R-squared value after deleting certain exogenous variables in the model. If $0.02 < f$ square≤ 0.15, it is a small effect; if $0.15 < f$ square≤ 0.35, it is a medium effect, and if f square$>$is 0.35, it is a large effect (Cohen, 1988).

As can be seen from table 7, the R square value of internal factor construct fertility intention is 0.524, the R square value of subjective well-being is 0.439, which means both of them are medium explanatory power. Taken together, conceptual models should have about a moderate degree of explanatory power. As for f square, the explanatory effect value of the outer construct human capital on the internal construct fertility intention is 0.121, which is a small effect; The explanatory effect value of the outer construct human capital on the internal construct subjective well-being is 0.783, which is a large effect; The explanatory effect value of the outer construct subjective well-being on the internal construct fertility is 0.260, which belongs to the medium effect; In summary, outer constructs have great explanatory power for internal constructs.

(2) Predictive Relevance

When evaluating the correlation between the internal response factor and its indicators, the Stone-Geisser Q-squared value can be tested (Geisser, 1974; Stone, 1974). Henseler, Ringle and Sinkovics (2009) suggested that the PLS path model outperforms the simplest benchmark when all Q-squared values are greater than 0. Values of 0.02, 0.15, 0.35 indicate a weak, moderate, and strong degree of predictive relevance of the individual effects. As can be seen in Table 7, the predictive relevance for the effect of subjective well-being is moderate (0.267), the predictive relevance for the effect of fertility intention is moderate (0.400).

Table 8 Model Goodness of Fit

Fit summary	Estimated model
Standardized root mean square residual	0.027
d_ULS	0.338
d_G	0.172
Chi-square	1139.215
Normed fit index	0.958

(3) Goodness of Fit

Hair et al. (2017) suggested that the standardized root mean square residual (SRMR) value should be less than 0.08 to achieve model fit. The normed fit index (NFI) is another indicator to evaluate goodness of fit. The closer the normed fit index to 1, the better the fit. The normed fit index values above 0.9 usually represent the acceptable fit (Lohmöller, 1989). The standardized root mean square residual value is 0.027 and the normed fit index value is 0.958. Hence, our study satisfied the overall model fit criteria of PLS-SEM.

(4) Path Coefficient Analysis

1) Hypothesis 1: The result found that human capital has a positive influence on fertility intention, with β=0.320, t value=9.971, and p value=0.000.

2) Hypothesis 2: The result found that human capital has a positive influence on subjective well-being, with β=0.663, t value=37.036, and p value=0.000.

3) Hypothesis 3: The result found that subjective well-being has a positive influence on fertility intention, with β=0.470, t value=15.640, and p value=0.000.

Thus, the hypotheses H1, H2, and H3 are supported.

Table 9 Direct Relationship Results

Hypotheses	Path coefficient	$\overline{x}$	SD	t values	Findings
H1: HC ⟶FI	0.320***	0.320	0.032	9.971	Supported
H2: HC ⟶SWB	0.663***	0.663	0.018	37.036	Supported
H3: SWB ⟶FI	0.470***	0.471	0.030	15.640	Supported

Note: *** means p value ≤ 0.001

4) Hypothesis 4: The result found that subjective well-being partially mediates the relationship between human capital and fertility intention. Mediation analysis was performed to assess the mediating role of subjective well-being. The results (see Table 10) revealed a significant partial mediating role of subjective well-being (H4: β=0.312, t value=14.429, p value=0.000). The total effect of human capital on fertility intention was significant (β=0.632, t value=30.882, p value=0.000), with the inclusion of the mediator the direct effect was still significant (β=0.320, t value=9.971, p value=0.000). The ratio of indirect effects to the total effect is 49.367%, which means human capital indirectly affects fertility intention accounting for 49.367%.

Table 10 Mediating Relationship Results (H4)

Total effect (HC→FI)	Direct effect ((HC→FI)	Indirect effect ((HC→FI)				Findings
Coefficient	Coefficient	H4:	Coefficient	SD	t value	Supported
0.632***	0.320***	HC→SWB→FI	0.312***	0.022	14.429	

Note: ******* means p value ≤ 0.001

Here below (table 11) is the summary of the result:

Table 11 Summary of Result

Hypothesis	Findings
Hypothesis 1	Human capital has a positive influence on fertility intention.
Hypothesis 2	Human capital has a positive influence on subjective well-being.
Hypothesis 3	Subjective well-being has a positive influence on fertility intention.
Hypothesis 4	Subjective well-being partially mediates between human capital and fertility intention.

Discussions

Research result 1: Human capital has a positive impact on fertility intention.

In this study, human capital is modeled as a second-order construct comprising seven dimensions. The results indicate a positive relationship between human capital and fertility intention, suggesting that higher levels of human capital, which include higher education, insurance, skills, socioeconomic status, a positive attitude towards fertility, better physical and mental health, and greater social trust and support, have a positive influence. This could be due to the fact that having high human capital means being better able to afford the costs of raising the next generation and having access to more social support and resources. This finding is consistent with previous research showing that people with higher levels of education tend to express a preference for three or more children, while they are less likely to want no children or only one child (Bernardi, Mynarska & Rossier, 2014; Heiland, Prskawetz & Sanderson, 2005). Regarding insurance, LeGrand et al. (2003) found that while insurance coverage may have a substitution effect, insurance is positively related to fertility intentions and people still need support, companionship and offspring in old age, which is consistent with our conclusion. Another study shows that men and women in managerial positions want more children than men and women in

lower-skilled occupations Jalovaara et al. (2019); (Kreyenfeld et al., 2022) found that there is a positive association between social status and the fertility relationship. From a fertility attitude perspective, a positive fertility attitude leads to a stronger desire to have children (Holland & Keizer, 2015). In terms of health, relatively healthy people are more confident to cope with the challenges of parenthood without worrying about the negative impact of health problems on family life (Alderotti & Trappolini, 2022). In terms of social confidence and support, research shows that the more likely they are to want a child now, the more likely they are to be supported by family and friends in their intention to have a child

Research result 2: Human capital has a positive influence on subjective well-being.

This result could be due to the fact that the higher an individual's human capital is, the more resources they have at their disposal, which is crucial for subjective well-being. Several studies confirm the assertion that human capital has a positive influence on subjective well-being. Jiménez, Caselles and Jiménez (2011) showed that a higher level of education, especially a college degree, is associated with higher subjective well-being. Furthermore, Claes et al. (2023) found that occupational resources such as skill utilization and personal growth have a positive impact on overall subjective well-being. Furthermore, Kim and Koh (2022) emphasized the crucial role of access to health insurance in increasing subjective well-being. Overall, these results support the conclusion that human capital contributes positively to subjective well-being.

Research result 3: Subjective well-being has a positive influence on fertility intentions.

The possible reason for this finding is that the higher the subjective well-being of people, the higher the individual's life satisfaction, and they will have more confidence and ability to raise the next generation. The influence of subjective well-being on fertility intentions has been confirmed by several studies. Matsuo and Matthijs (2016); Vignoli, Mencarini and Alderotti (2020) have demonstrated the influence of subjective well-being on fertility intentions. In addition, Buh (2023) emphasized the importance of subjective well-being, which includes aspects such as life satisfaction, work-life balance, and social benefits, in mediating the relationship between insecure working conditions and fertility intentions. Overall, these findings support the notion that subjective well-being positively influences fertility intentions.

Research result 4: Subjective well-being has a mediating effect between human capital and fertility intention.

Some studies have shown that subjective well-being plays a mediating role in fertility intention. Vignoli, Mencarini and Alderotti (2020) have confirmed that the effect of job insecurity

on fertility intention is mediated by subjective well-being and that job insecurity has a strong relationship with individual human capital levels. In addition, Pertold-Gebicka (2022) found that parents' subjective well-being reveals the subjectively perceived costs and benefits of having children and is considered by many to be a proxy for benefits. Although previous research has not directly examined the mediation of subjective well-being in the relationship between human capital and fertility intentions, these findings suggest a similar mediating mechanism.

Knowledge from Research

This study integrates several key concepts, including human capital, subjective well-being and fertility intentions, providing a comprehensive theoretical framework. The paper analyzes the composition of human capital from both explicit and implicit perspectives, with implicit human capital being unquantifiable. Previous research has often overlooked the aspect of individual implicit human capital. By conceptualizing human capital as a second-order reflective latent variable, this study reveals the complex relationships between these factors at a macroscopic and comprehensive level, thereby extending the theoretical depth of existing research on fertility decisions.

In addition, this study provides further evidence on the importance of individual intentions in fertility decisions and presents innovative findings on the mediating effect of subjective well-being on the relationship between human capital and fertility intentions. The introduction of subjective well-being as a mediating variable clarifies the pathways through which human capital influences fertility intentions. This not only deepens the understanding of the mechanisms behind fertility intentions, but also provides a new perspective for future research investigating mediating effects.
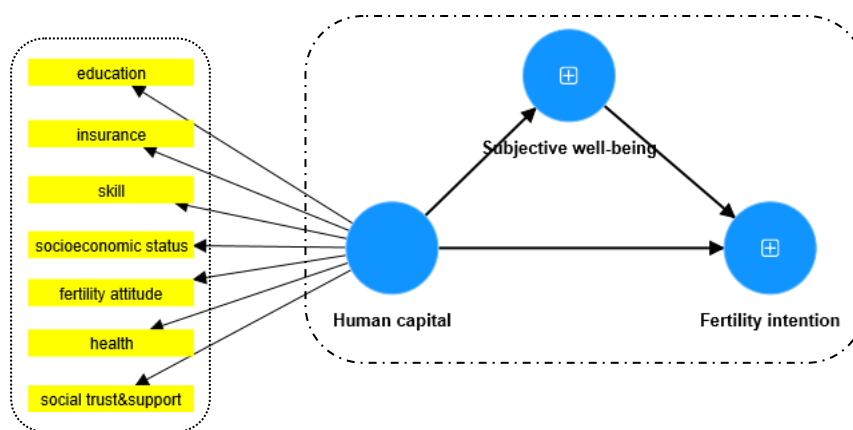
Figure 2 Ming Mapping in this Study

Note: ⬚ is a first-order construct, ⬚ is a second-order construct.

Conclusions

The results of the study indicate a positive relationship between human capital and fertility intention as well as a positive influence of human capital on subjective well-being. Subjective well-being, in turn, has a positive influence on fertility intentions. Importantly, subjective well-being partially mediates the relationship between human capital and fertility intentions. This reveals that enhancements in human capital and subjective well-being exert positive influences on fertility intentions.

Suggestions

Suggestions for Making Policies

Understanding the relationship between human capital, subjective well-being, and fertility intention can provide more specific suggestions for improving well-being and formulating fertility policies. Individual human capital should be improved in aspects of education, professional skills, insurance coverage, fertility attitude, personal health, social support, and the experience of individual subjective well-being should be strengthened, which can better help improve the desire to have children.

Suggestions for Future Research

The scope of the study sample could be expanded to include individuals from a wider age range and diverse geographic regions, facilitating a better understanding of the extent to which human capital influences fertility intentions across different backgrounds.

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