Iranian Evolutionary Educational Psychology Journal
IEEPJ
University of Hormozgan
Online ISSN: 2588 - 4395
Homepage: https://ieepj.hormozgan.ac.ir

Prediction of Childbearing Intention Based on Personality Traits and Marital Satisfaction in Married Couples

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Article Info

Article type:
Research Article

Article history:
Received 20 Mar. 2025
Received in revised form 18 Jun. 2025
Accepted 14 Jul. 2025
Published online 01 Dec. 2025

Keywords:
Fertility intention,
Personality traits,
Marital satisfaction

ABSTRACT

Objective: The present study aimed to predict fertility intention among married couples based on personality traits and marital satisfaction. Given the continued decline in fertility rates in Iran and the growing importance of psychological and relational factors in reproductive decision-making, this research sought to clarify the relative contribution of individual and marital variables to fertility intentions.

Methods: This applied study employed a descriptive–survey and correlational design. The statistical population consisted of all married women and men residing in Khomein city in 2024. Using Cochran's formula for an unlimited population, 384 participants were initially selected through simple random sampling, and data from 323 fully completed questionnaires were included in the final analysis. Data collection instruments comprised the ENRICH Marital Satisfaction Questionnaire, the Personality Traits Questionnaire developed by Bass et al. (1975), and the Fertility Intention Influencing Factors Questionnaire developed by Nokhai and Khajeh (2022), based on the Theory of Planned Behavior. The psychometric properties of all instruments had been previously established. Data were analyzed using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) approach via Smart PLS software.

Results: The findings demonstrated that personality traits and marital satisfaction exert significant and positive effects on fertility intention. Personality traits showed a strong direct influence on fertility intention, while marital satisfaction also had a significant predictive effect. In addition, marital satisfaction played a supportive role in shaping positive attitudes toward childbearing. The structural model exhibited strong explanatory power and acceptable overall fit.

Conclusions: The results suggest that fertility intention is shaped by a combination of psychological, marital, and contextual factors. Interventions aimed at strengthening marital relationships, enhancing mental well-being, and improving economic and social support systems may help promote fertility intentions among married couples.

Cite this article: Fathi, E., Heidari, H. & Davudi, H. (2025). Prediction of childbearing intention based on personality traits and marital satisfaction in married couples. *Iranian Evolutionary Educational Psychology Journal*, 7 (4), 1-14.
DOI: https//doi.org/ 10.22034/7.4.1

Publisher: University of Hormozgan.
DOI: https// doi.org/ 10.22034/7.4.1

Introduction

Childbearing is one of the most significant decisions in marital life and is influenced by a wide range of individual, personality-related, and interpersonal factors. Fertility is a crucial phenomenon in demographic change and a central pillar of sustainable development in countries that have fallen below replacement-level fertility. Although childbearing and reproduction are considered instinctive and innate human needs, fertility trends in Iran have experienced considerable fluctuations in recent decades (Shahhosseini et al., 2024).

In recent years, cultural and social transformations—including increased age at marriage, changing attitudes toward childbearing, and economic challenges—have led many couples to hesitate in their decisions about having children. Iran is among the countries that have undergone a demographic transition and have experienced a rapid decline in fertility over a relatively short period. Since 2006, the total fertility rate has fallen below the replacement level (2.1 children per woman). In 2011, the total fertility rate was estimated at approximately 1.8, and currently, most provinces in the country report fertility levels below replacement. Notably, Tehran has experienced low fertility for more than two decades and is now among the cities with very low fertility, currently around 1.2 children per woman (Abbasi-Shavazi & Hosseini-Chavushi, 2013; Shahhosseini et al., 2024).

Moreover, the relationship between marriage and childbearing is undergoing substantial change, similar to patterns previously observed in some European countries during the second demographic transition. The link between sexual behavior, marriage, and childbearing has weakened, meaning that marriage and fertility are no longer tightly connected. Non-marital childbearing has become increasingly common, and having children is no longer considered an inevitable consequence of marriage. Additionally, marriage patterns have shifted toward fewer and later marriages, alongside higher divorce rates. The growing prevalence of cohabitation poses challenges to the stability of traditional marriage and family systems (Chen et al., 2023; Morgan & Rackin, 2010).

In response to these developments, a substantial body of demographic and social research has examined fertility and its determinants. In recent years, as fertility has continued to decline below replacement level, the number of studies aimed at explaining these changes has increased. Currently, fertility in Iran has reached approximately 1.2 children per woman in 24 out of 30

provinces, indicating a markedly weakened desire for childbearing among Iranian families. Iranian society has begun the second demographic transition before fully completing the first, and with the acceleration of communication technologies and increased use of modern media, changes in family structures are expected to intensify. These trends include a shift toward nuclear families, increased vulnerability, delayed marriage, and declining fertility. At present, Iran has one of the lowest fertility rates in the Middle East (Sadeghi & Esmaeili, 2021).

Fertility is therefore a critical demographic phenomenon and a key component of sustainable development in low-fertility societies (Piltan & Rahmanian, 2015). Despite this importance, relatively few population studies have examined religious beliefs as influential factors in fertility change. Religion, as a cultural determinant, affects fertility through its influence on norms related to family size, number of children, age at marriage, and related values. Religion encompasses a system of beliefs, norms, and values that provide meaning to life and represent dominant sacred values within social life. In traditional societies, religion has played a central role in shaping values across various domains of social life (Vogl & Freese, 2020).

Among the key factors influencing childbearing intentions are personality traits and marital satisfaction. Personality traits—such as extraversion, conscientiousness, openness to experience, and agreeableness—can significantly affect fertility intentions. Personality traits are relatively stable characteristics that do not change substantially across situations and serve as consistent predictors of behavior in diverse contexts (Diener & Lucas, 2019).

An important dimension in this context is the influence of personality traits on childbearing intentions. Personality, as a predictive variable, plays a substantial role in life decisions, and recent studies indicate a meaningful association between personality traits and family-related decisions, particularly those concerning fertility. In addition, marital satisfaction, as a key indicator of marital quality, may serve as an important predictor of childbearing decisions. Couples who report higher marital satisfaction generally hold more positive attitudes toward expanding their families (Gordon & Baucom, 2009).

Nindyasari and Herawati (2018) described marital satisfaction as observable in couples' ability during the early years of marriage to integrate various aspects of their lives in a manner that determines the overall harmony of the family. Marital satisfaction is defined as subjective feelings regarding marital experiences and is inseparable from feelings of contentment, happiness, and

pleasure in marital life (Singh & Tripathi, 2021). Furthermore, Preda et al. (2020) found that regardless of education or income level, forming a larger family is significantly associated with financial aspects of life, and younger women reported that childbearing may hinder women's employment. Although fertility rates continue to decline under emerging family values, women's fertility attitudes and behaviors remain in transition. Consequently, sustainable population policies are needed to address fertility challenges. Bora et al. (2023) similarly reported a significant decline in fertility in Bangladesh, with factors such as residence, religiosity, maternal age and education, spouse's education, family values, child mortality experience, and women's empowerment showing significant associations with unmet fertility intentions.

Given the importance of these issues, the present study examines the role of personality traits and marital satisfaction in predicting childbearing intentions among married couples. The primary aim of this research is to investigate and predict fertility intentions based on personality characteristics and marital satisfaction. Specifically, the study seeks to answer the question of which personality traits and to what extent marital satisfaction significantly influence couples' decisions regarding childbearing.

Material and Methods

The present study was applied in terms of purpose and correlational in terms of methodology, aiming to examine the relationships among the study variables. From a methodological perspective, the research was descriptive and conducted using a survey design. The study focused on identifying associations rather than causal relationships among variables. The statistical population of this study consisted of all married women and men residing in the city of Khomein in the year 2024. Due to the lack of precise information regarding the size of the population, Cochran's formula for an infinite population was employed, resulting in an initial sample size of 384 participants (both women and men). A total of 384 questionnaires were distributed and collected, of which 323 completed questionnaires were deemed usable and entered into the final analysis. According to the rule of thumb suggested by Muthén and Muthén (2002), a minimum sample size of 315 participants was considered sufficient for the analytical procedures employed in this study. Participants were selected using simple random sampling.

Instruments

Data were collected using three standardized questionnaires whose validity and reliability had been confirmed in previous studies. Prior to the main data collection, the validity and reliability of the instruments were reassessed. Content validity and face validity were evaluated using qualitative expert judgment. Following expert approval, a pilot study was conducted with 30 participants from the target population. Cronbach's alpha coefficients were calculated for each questionnaire and their respective subscales. The results indicated that all alpha coefficients exceeded the acceptable threshold of 0.70, demonstrating satisfactory internal consistency. Upon confirmation of validity and reliability, the main data collection process was completed. To collect theoretical and background information, library-based methods were used, including books, academic theses, and scholarly articles. Field data were collected using self-report questionnaires.

ENRICH Marital Satisfaction Questionnaire: Marital satisfaction was measured using the 47-item version of the ENRICH Marital Satisfaction Questionnaire developed by Olson and Fowers (1989). This instrument comprises 12 subscales, including Conventionality, Marital Satisfaction, Personality Issues, Communication, Conflict Resolution, Financial Management, Leisure Activities, Sexual Relationship, Marriage and Children, Family and Friends, Egalitarian Roles, and Religious Orientation. Items are rated on a five-point Likert scale ranging from *strongly agree* to *strongly disagree*, with scores from 1 to 5. The Persian version of the questionnaire was translated and content-validated by psychology experts, and its reliability was confirmed using Cronbach's alpha, yielding coefficients ranging from 0.92 to 0.95 in previous studies. Olson et al. reported an overall reliability coefficient of 0.92 for the instrument.

Personality Traits Questionnaire: Personality traits were assessed using the questionnaire developed by Bass and Valenzi (1980). This instrument consists of 27 items across four personality dimensions: Fairness (items 1–11), Boldness/Assertiveness (items 12–16), Egalitarianism (items 17–22), and Introversion (items 23–27). Responses are recorded on a five-point Likert scale from *strongly disagree* to *strongly agree*. The reported Cronbach's alpha for the scale is 0.74, indicating acceptable internal consistency.

Childbearing Intention Questionnaire: Childbearing intention was measured using the questionnaire developed and standardized by Nakhaee and Khajeh (2022) based on the Theory of

Planned Behavior. The instrument includes 14 items across three components: Attitude toward Childbearing (8 items), Subjective Norms (3 items), and Perceived Behavioral Control (3 items). Content validity was confirmed by experts, and construct validity was established through factor analysis. The three components collectively explained 58% of the variance in childbearing intention. Reliability coefficients (Cronbach's alpha) were reported as 0.83 for attitude, 0.79 for subjective norms, and 0.66 for perceived behavioral control, indicating acceptable internal consistency. Given its strong psychometric properties and local standardization, this questionnaire is considered suitable for research on fertility intentions among Iranian couples.

Data Analysis

Data analysis was conducted using both descriptive and inferential statistics. Descriptive statistics—including frequencies, percentages, and graphical representations—were used to summarize demographic characteristics and research variables, using SPSS software. Inferential statistics were employed to generalize findings from the sample to the population. To test the proposed research model, Structural Equation Modeling (SEM) was conducted using the Partial Least Squares (PLS) approach via SmartPLS software. This method was selected due to its suitability for predictive modeling and its robustness in handling complex models with multiple constructs.

Results

In this section, the demographic characteristics of the participants are first examined using frequency-related indices. According to demographic characteristics of the sample, the age distribution of participants was diverse across different age groups. The largest proportion of participants fell within the 36–55 age range, indicating that individuals in mid-adulthood constituted the majority of the sample. Regarding spouses' ages, the highest percentages were observed in the 25–45 age groups, suggesting that most marriages occurred within similar age cohorts. In terms of educational level, the highest proportion of participants held a bachelor's degree, indicating that undergraduate education was the most prevalent level among respondents. With respect to occupation, the majority of participants were employed either in self-employment or governmental positions.

Following descriptive analysis, inferential statistical analyses were conducted to test the research hypotheses. Structural Equation Modeling (SEM) using the Partial Least Squares (PLS) approach was employed to examine the proposed research model.

Figures 1 and 2 illustrate the structural model with standardized factor loadings and corresponding *t*-values, respectively.

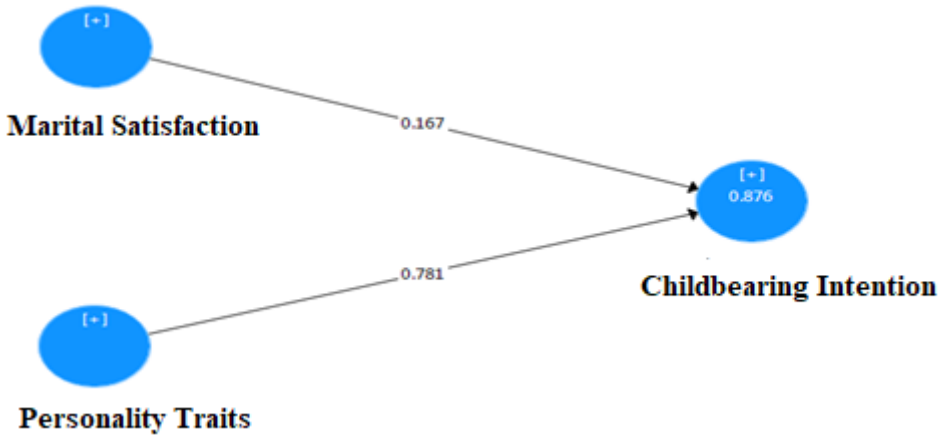

Figure 1. Structural model of the research along with standardized coefficients of factor loadings

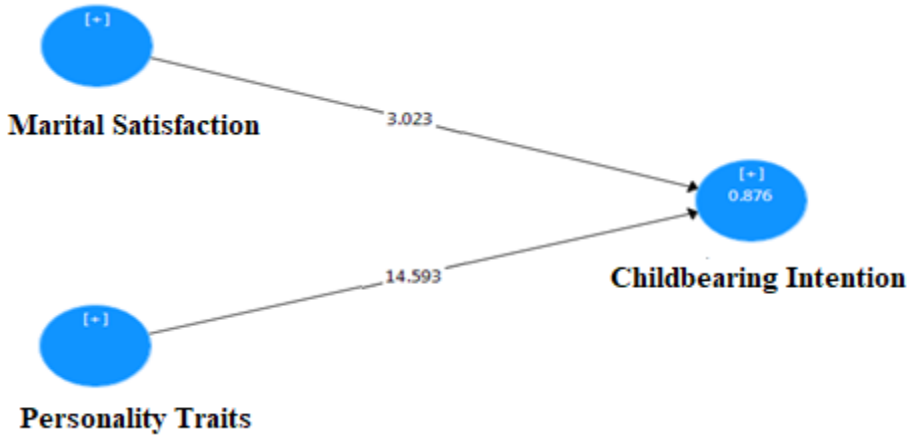

Figure 2. Structural model of the research with t-values

Factor loadings range between 0 and 1. Loadings below 0.40 are considered weak and are typically removed, whereas loadings above 0.40 are deemed acceptable. Since all factor loadings in the present study exceeded 0.40, no items were excluded from the model.

Model fit was assessed in three stages:

1. **Measurement model (outer model) fit**
2. **Structural model (inner model) fit**

3. Overall model fit

Reliability Assessment

Cronbach's alpha, composite reliability (CR), and communality were used to assess measurement reliability. Cronbach's alpha values above 0.70 indicate acceptable internal consistency. Communality values greater than 0.50 reflect adequate variance explained by the latent constructs. Composite reliability values above 0.70 suggest strong internal consistency within the PLS framework. As shown in Table 1, all constructs demonstrated satisfactory reliability indicators, confirming the adequacy of the measurement instruments.

Table 1. Cronbach's alpha values, communality values, and composite reliability

Variable	Cronbach's Alpha>0.7	Composite Reliability>0.7	Communality > 0.5
Marital satisfaction	0.982	0.982	0.545
Childbearing intention	0.948	0.954	0.600
Personality traits	0.974	0.976	0.603

Validity Assessment

In addition to content validity, convergent and discriminant validity were examined using PLS-SEM. Convergent validity was assessed using the Average Variance Extracted (AVE), as proposed by Fornell and Larcker (1981). An AVE value above 0.50 indicates that the latent construct explains at least 50% of the variance of its indicators.

As presented in Table 2, AVE values for all constructs exceeded the recommended threshold, confirming convergent validity.

Table 2. AVE test

Variable	AVE >0.5
Marital satisfaction	0.545
Childbearing intention	0.600
Personality traits	0.603

Discriminant validity was evaluated using the Fornell–Larcker criterion. As shown in Table 3, the square root of the AVE for each construct was greater than its correlations with other constructs, indicating satisfactory discriminant validity and appropriate measurement model fit.

Smart PLS outputs further confirmed adequate convergent and discriminant validity, as well as acceptable reliability across all constructs.

Table 3. Fornell–Larcker criterion values

Variables	Marital satisfaction	Childbearing intention	Personality traits
Marital satisfaction	0.738		
Childbearing intention	0.680	0.775	
Personality traits	0.612	0.634	0.776

The coefficient of determination (R^2) and predictive relevance (Q^2) were used to assess the structural model. R^2 values of 0.67, 0.33, and 0.19 are interpreted as strong, moderate, and weak, respectively. Q^2 values above 0.35 indicate strong predictive relevance. According to results, the R^2 value for childbearing intention was 0.876, indicating a strong explanatory power of the model. The overall model fit was assessed using the Goodness-of-Fit (GOF) index, calculated as the square root of the product of average communality and average R^2 values. GOF values of 0.01, 0.25, and 0.36 represent weak, moderate, and strong fit, respectively. Based on Results, the GOF value of 0.714 exceeds the threshold for strong fit, confirming that the overall model demonstrates excellent goodness of fit.

Hypothesis 1: Marital satisfaction has a significant effect on childbearing intention.

The path coefficient between marital satisfaction and childbearing intention was 0.167. The corresponding *t*-value was 3.023, exceeding the critical value of 1.96. Therefore, the first hypothesis was supported.

Hypothesis 2: Personality traits have a significant effect on childbearing intention.

The path coefficient between personality traits and childbearing intention was 0.871, with a *t*-value of 14.593, well above the significance threshold. Accordingly, the second hypothesis was also supported.

Discussion

The aim of the present study was to examine the effects of personality traits and marital satisfaction on childbearing intentions among married couples. The findings derived from structural equation modeling revealed that both predictor variables—personality traits and marital satisfaction—had significant effects on the intention to have children. These results are consistent with previous

studies conducted by Shahhosseini et al. (2024), Heywood et al. (2016) and Xing et al. (2022), which also reported meaningful associations between psychological and relational factors and fertility intentions.

According to the results, the path coefficient between marital satisfaction and childbearing intention was 0.167, with a *t*-value of 3.023, indicating a statistically significant effect. In addition, the path coefficient for personality traits predicting childbearing intention was 0.781, with a *t*-value of 14.593, confirming the strong influence of personality characteristics on fertility-related decision-making. These findings suggest that both individual dispositions and relational quality play crucial roles in shaping couples' intentions regarding childbearing. From psychological, sociological, and cultural perspectives, personality traits are fundamental determinants of major life decisions, including parenthood. Based on the Five-Factor Model of personality, traits such as conscientiousness and extraversion may positively influence the desire to have children, whereas neuroticism may exert a negative effect. Individuals with high levels of conscientiousness tend to be future-oriented and responsible, which may encourage them to accept parental roles. Similarly, extraverted individuals, who enjoy social interaction, may view childbearing as a means of expanding their social networks. In contrast, individuals with high levels of neuroticism may avoid parenting responsibilities due to heightened stress and anxiety.

Beyond personality traits, marital satisfaction also plays a significant role in increasing childbearing intentions. From the perspective of social exchange theory, individuals are more likely to decide in favor of childbearing when they perceive its benefits to outweigh its costs. In couples with high marital satisfaction, mutual support and empathy facilitate the decision to have children, as parenting is experienced within a stable and supportive relationship. Attachment theory further suggests that a sense of emotional security within marriage can enhance the desire for childbearing. Individuals who receive emotional support from their spouses are less concerned about parenting challenges and plan for childbearing with greater confidence. Moreover, the quality of marital interactions can shape couples' attitudes toward childbearing; positive communication and mutual respect create a favorable environment for child development and strengthen the motivation to form a family.

In addition to individual and interpersonal factors, social and cultural variables also play a significant role in fertility-related decision-making. In societies where family values and

childbearing are regarded as social norms, individuals may experience greater social pressure to have children. Conversely, economic conditions represent a critical determinant of fertility intentions. Couples lacking financial stability may refrain from childbearing despite high marital satisfaction due to economic concerns. In this context, governmental support policies—such as financial incentives, maternity leave, and free childcare services—can effectively promote higher fertility rates. International studies have shown that couples in countries with strong social and economic support systems are more inclined to have children.

Overall, the findings of this study indicate that childbearing intention is influenced by a combination of psychological, marital, social, and economic factors. Personality traits shape individuals' attitudes toward parenthood, while marital satisfaction serves as a supportive factor that can facilitate fertility intentions. Furthermore, broader economic and cultural conditions may moderate these relationships and influence couples' decision-making processes. Accordingly, policymakers and family counselors can contribute to increasing fertility rates by focusing on strengthening marital relationships, promoting mental health, and providing adequate economic support.

Despite its meaningful findings, the present study has certain limitations. One limitation concerns the use of the Partial Least Squares (PLS) approach, which, although highly effective for analyzing complex models, does not allow for definitive causal inferences. Additionally, the study sample consisted exclusively of married couples, which may limit the generalizability of the findings to other populations, such as single individuals or couples in the early stages of marriage. Future research is recommended to employ alternative analytical methods, such as covariance-based structural equation modeling (CB-SEM), to further examine the effects of personality traits and marital satisfaction on childbearing intentions. Moreover, future studies could investigate the mediating roles of variables such as attitudes toward childbearing or social support. Comparative studies across different geographical regions may also enhance understanding of the cultural and social factors influencing fertility intentions.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

Funding

The authors did (not) receive support from any organization for the submitted work.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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