



# Value of Children: Attitudinal Factors Influencing Childbearing Desire of Iranian Women

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## Abstract

A set of economic and social rules and regulations as well as cultural factors influence value of children; however, this value itself could alter fertility behaviors. The present study aimed at investigating the influence of the value of children on fertility behavior through considering the impact of its attitudinal factors on childbearing desire, as one of the most important dimensions of fertility behavior. A cross-sectional study was conducted on 6231 females from 31 provinces of Iran, admitted to public health and treatment centers to vaccinate their children, during year 2014. The data collection tool was a questionnaire, including three value of children dimensions, including cultural (five items), social (seven items), and economic (four items) factors, and also demographic and attitudinal questions. Data were analyzed using SPSS-17 software and the factors influencing childbearing desire (CD) were examined by four SEMs for four age groups in AMOS-22. Goodness of fit models was confirmed by five fit indices. Only cultural factors had a significant direct effect on CD for 30 to 39 and 40 to 49 year-old females (P-values = 0.027, and < 0.001, respectively). Thus, planners and policy makers should consider changes in the cultural value of children to implement successful policies to alter the current decreasing trend of fertility rate.

**Keywords:** Childbearing, Decision-Making, Fertility Determinants, Women

## 1. Background

Since the last three decades, one of the most significant demographic changes is the sharp and astonishingly decrease of fertility rates all over the world, especially in developing countries (1, 2). In Iran, economic, social, individual, and cultural changes in families has resulted in a fertility transition and reproductive behavior changes (3). The fertility rate in Iran has varied over the past three decades (4) and the total fertility rate (TFR) per woman decreased from 7.7 in 1966 to 1.8 in 2009 (4). Childbearing is a permanent commitment process for supporting, protecting, and raising a child. Childbearing desire (CD) is the most common concern of families about childbearing (5, 6). A number of studies have investigated the variations in fertility rates and factors influencing fertility (6-8). According to the outcomes of these studies, there is a direct relationship between fertility and desired number of children (5, 9-14).

One of the most influential factors on CD is value of children. How to value children depends on the construction of the society and family, and psychological, social and economic conditions of couples having the power of ferti-

ity determination. Therefore, to influence the motivations and decisions of individual's childbearing, paying attention to the value of children and recognizing the factors affecting it, is very necessary (15).

Studies have investigated the value of children on fertility behaviors, such as the study of Rajabi and Hashemina (16). They concluded that the value of children has a meaningful and direct relationship in terms of economic and religious dimensions with both real and ideal fertility behaviors; however, in terms of social dimension it just has a significant relationship with real fertility. The study of Ghorbani indicated that the most and the least important values associated with children for couples were attitudinal and economic values, respectively (17). In addition, the value of children and the reasons for childbearing had the most correlation with the feelings of couples about children, and their unwillingness of childbearing could be explained by economic and social factors. Abbasi Shavazi et al. in a study on women's attitudes towards fertility and the value of children in four selected provinces showed that females were aware of the mental and psychological costs of childbearing and believed that if they had

fewer children, they could plan better for their education and also their own interests (18).

Mahmoudian and Pourrahim, in a research entitled "The value of children from the perspective of young couples and its relationship to fertility", showed that the value of children and the economic, social, and psychological characteristics of individuals had significant relationships with the number of their CDs (19). Findings of Raisi, Aghajanian and Rajabi's studies showed that attention to aging and widowhood time determined the economic role of children in the life of urban females (20, 21). In view of rural parents, the positive aspects of having children were so strong that childlessness was nonsense to them. Rural children were also a social support factor for their parents at old age and they had an important role in the economics of their family.

As a result, fertility rates may decrease due to changes of various social, economic, and cultural factors associated with children value. Thus, conducting studies to identify the most essential factors influencing CD is very important. Findings from such studies could help design effective interferences, and assist policy maker's decision-making in the present legal system. Moreover, it may aid healthcare providers study how to support women in this important process and extant useful strategies and interventions. The main objective of this study was to examine the relationship between the value of children and fertility behavior. The value of children was measured in three dimensions of social, cultural, and economic factors. The data collection method and a brief introduction of structural equation modeling (SEM) are described in the next section.

## 2. Methods

In a study titled "Childbearing attitudes and its social, economic and cultural factors" (22), 6231 married females aged 15 to 49 years old were selected, during year 2014. Number of samples was calculated by Cochran formula to gain 95% confidence to analyze the data. The sample was selected by multi-stage stratified random sampling from those referred to public health and treatment centers to vaccinate their children, in all provinces of Iran. In the first stage, 31 provinces were selected, and then, in the second stage, three sub-provinces (Shahrestan) of each province, based on the size and distribution of the population, were chosen by the probability proportional to size sampling method. Females were selected randomly within each center, and by taking their consents, they answered a self-report questionnaire with careful monitoring (23). The structured questionnaire included questions about attitudes toward childbearing, demographic

**Table 1.** Selected Fit Indices in SEM

Fit Index	Acceptable Threshold Levels
$\chi^2$	Low chi-square relative to degrees of freedom with an insignificant P-value ( $P > 0.05$ ) (26)
$\chi^2/df$	
RMSEA	Values less than 0.07 (27)
GFI	Values greater than 0.90
AGFI	Values greater than 0.90
CFI	Values greater than 0.90

and socio-economic factors, and also 16 questions (items) about value of children. The validity of the questionnaire was confirmed by ten demographic researchers and sociologists and its reliability was at least 0.82 for each sub-item, based on Cronbach's alpha.

Women's CD was calculated by summing up the number of children ever born (CEB) and the ideal number of children they decided to have. This desired number of children was obtained from the following question: "Considering the number of children you have, how many more children do you desire?" Values of children were computed by from the 16 questions.

Structural equation modeling (SEM) is a statistical analysis, which is extensively applied in behavioral sciences. It can be considered as a combination of factor analysis and several traditional multivariate regression procedures or path analysis (23). It is often pictured by a graphical path diagram that contains boxes and circles, which are linked by arrows. A rectangle (or square box) represents observed (or measured) variables and a circle or ellipse indicates latent (or unmeasured) factors, respectively. To fit a model to the data, a set of regression equations should be solved, which require usual regression assumptions. Goodness of fitted model can be confirmed by many indices in SEM. In this study, based on Hooper et al.'s article, six indices, including chi-square ( $\chi^2$ ), Relative chi-square ( $\chi^2/df$ ), root mean square error of approximation (RMSEA), Goodness of Fit (GFI), Adjusted GFI (AGFI), and comparative fit index (CFI) were considered. Table 1 shows these indices and their acceptable threshold levels (24, 25).

The data in this study were analyzed using SPSS-17 software to present descriptive statistics and AMOS-22 for fitting the SEM.

## 3. Results

Overall, the 6231 females in this study had mean age, marital age, and duration of marriage of  $29.90 \pm 6.06$ ,  $21.43 \pm 4.68$ , and  $8.41 \pm 5.66$  years, respectively. The desired number of children for women was in the range of

**Table 2.** Frequency of Selected Demographic Variables

Variables	Frequency	Percent
<b>Age, y</b>		
10 - 19	182	2.9
20 - 29	2925	46.9
30 - 39	2694	43.2
40 - 49	430	6.9
<b>Residence</b>		
Urban	4466	71.7
Rural	1765	28.3
<b>Educational level</b>		
Illiterate	180	2.9
Primary & middle school	2007	32.2
High school/diploma	2371	38.1
University	1667	26.8
<b>Activity</b>		
Employed	853	13.7
Student	141	2.3
House keeper	5177	83.1
Searching job	56	0.9
Other	4	0.1
<b>Total</b>	<b>6231</b>	<b>100</b>

zero to ten with the mean of  $2.81 \pm 1.36$ . Based on Table 2, most of women were between 20 and 39 years old, born in cities (71.7%), housekeepers (83.1%), and had high school or diploma (38.1%) educational level.

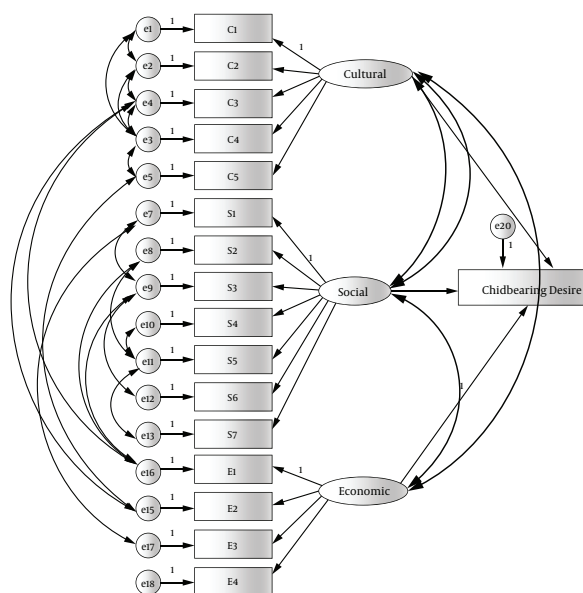
Table 3 shows items (options) of cultural, social, and economical factors with each items' percentage, their mean, and standard deviations (SD).

In this study, age was a confounder variable and interpreting SEM's results without considering age, led to misleading inferences. Therefore, to study the effect of the value of children factors influencing CD, four separate SEMs were fitted based on four age groups.

Figure 1 and Table 4 showed the theoretical SEM model and fit indices for four age groups. Based on Table 4, goodness of fitted models was confirmed by RMSEA, GFI, AGFI, and CFI indices. Since  $\chi^2$  and  $\chi^2/df$  are sensitive to sample size, they were ignored as goodness of fit indices in this study, yet based on Hooper's et al. suggestions, they were reported in this article.

The estimated coefficients of these models are shown in Tables 5 and 6.

Based on Table 6, only the cultural value factor influenced women's CD for those aged 30 to 49; by increasing



**Figure 1.** The SEM theoretical plot of value of children attitudinal factors influencing childbearing desire

"cultural children value factor", CDs also increased and it was more effective for 40 to 49 year-old females compared to 30 to 39 year-old cases.

#### 4. Discussion

One of the many important functions of the family is childbearing. However, it is not the only reason behind childbearing desire (28, 29). For parents, children are the source of happiness, pleasure, and affection and they can have benefits or costs in social and economic dimensions.

Although a number of studies have investigated the value of children (costs and benefits) in different provinces of Iran (17-22), the current study examined the influence of social, cultural, and economic attitudes of Iranian women on their childbearing desire by different age groups. To the best of the authors' knowledge, there is no study applying the SEM method to study this case (27-29). There are a number of researches, which have applied SEM and path analysis to study demographic data (30-32). Kariman et al. (30, 31) applied this method to analyze first childbearing decision-making in women, Keurst et al. (32) studied intentions of women to use fertility preservation to avoid age-related fertility decrease, Kariman et al. (9) indicated factors influencing first childbearing timing decisions among men. Reshadat et al. (33) also studied cultural influential factors on TFR during the fertility age. Some researchers, by investigating the effects of demographic

**Table 3.** Factors and Corresponding Items

Factor/Items	Response, %					Total	Mean ± Sd
	Completely Disagree	Disagree	Neither	Agree	Completely Agree		
<b>Cultural</b>							
C1: Families with a child have a greater sense of happiness than childless families.	2.7	7.3	7.8	30.4	51.8	100	4.21 ± 1.04
C2: Childbearing strengthens the power of commitment of the parents.	0.9	3.3	4.2	39.8	51.8	100	3.14 ± 1.14
C3: Life without a child is cold and soulless.	1.6	3.2	5.4	34.5	55.3	100	4.38 ± 0.79
C4: Good children are a blessing and God will help for their expenditure.	2.6	6.6	11.0	35.0	44.9	100	3.11 ± 1.23
C5: The existence of a child strengthens the family.	1.3	4.7	7.2	39.1	47.6	100	3.12 ± 1.19
<b>Social</b>							
S1: these days if you have more than two children, people will blame you.	8.0	31.3	18.2	26.5	16.0	100	3.76 ± 1.01
S2: these days if you don't have a child, people will blame you.	4.4	18.1	20.3	36.6	20.6	100	3.72 ± 1.17
S3: childbearing spoil mother's body fitting.	7.2	24.1	18.0	31.8	18.9	100	4.39 ± 0.85
S4: spending money for what you may like is better to spend it for childbearing.	37.8	43.0	7.8	5.8	5.6	100	4.13 ± 1.02
S5: childbearing is difficult and takes comfort from an individual.	7.6	29.4	20.6	28.5	13.9	100	3.31 ± 1.23
S6: childbearing can spoil women's educational and career progress which is more important than childbearing for them.	16.6	47.8	21.1	9.6	4.9	100	4.27 ± 0.89
S7: these days many people prefer to have children later because of distrust to their husbands.	6.5	28.4	20.7	33.0	11.4	100	2.38 ± 1.03
<b>Economic</b>							
E1: children will be parental support in old-age.	2.5	10.0	21.2	41.5	24.8	100	3.51 ± 1.35
E2: concerns and uncertainties about the future make people unwilling for childbearing.	4.3	20.4	20.3	37.2	17.8	100	3.44 ± 1.13
E3: If the government protects families, especially employed women, they will have more children.	2.8	11.0	14.7	37.8	33.7	100	3.89 ± 1.08
E4: the cost of raising a child prevents parents to have a child.	4.0	16.8	12.6	36.7	30.0	100	1.98 ± 1.09

**Table 4.** Sems' Fit Indices for Four Age Groups

Fit Index	Fitted Model			
	Age 10 - 19	Age 20 - 29	Age 30 - 39	Age 40 - 49
$\chi^2$	104.350	595.308	633.153	198.392
Relative $\chi^2$ ( $\chi^2/df$ )	1.13	7.09	7.19	2.13
RMSEA (CI)	0.027 (0.00,0.05)	0.046 (0.042,0.049)	0.048 (0.044, 0.052)	0.051 (0.041,0.061)
GFI	0.940	0.957	0.973	0.947
AGFI	0.900	0.955	0.952	0.913
CFI	0.952	0.89	0.894	0.897

variables on fertility behaviors, indicated a significant and direct relationship with women's age (16, 20, 34). Therefore, in this study, four SEMs were fitted to data, based on women's age groups.

According to the results of this study, only cultural factors had significant effects on 30 to 39 and 40 to 49 year-old women's CDs. The higher was women's positive cultural opinion regarding child bearing, the higher was their CD. Some researchers, such as Mahmoudian and Pourrahim (19), Mayer and Trommsdorff (35), and Aycicegi-Dinn and Kagitcibasi (36) considered these factors as psychological factors. Studies such as that of Kazemipour (22) and Raisi (20) confirmed the results of the current study.

Some studies, such as Rajabi and Hasheminia (16), Mahmoudian and Pourrahim (19), Aghajanian and Rajabi (21),

and Backer and Barro (37) showed that the most influential value of children factor on women's CD was the social factor, the negative aspects of which were studied. By increasing social negative opinions, women's CD were decreased. However, in this study, modeling children value factors on CD in different age groups results in non-significant effect of the social factor.

Also, economic factor regarding children value did not have a significant effect on CD by fitting models to different age groups. Ghorbani concluded that the least significant value of children for couples is the economic values (17). Unlike the results of this study, Aghajanian and Rajabi showed that attention to aging and widowhood time determines the economic value of children in urban women's life (21). Aycicegi-Dinn and Kagitcibasi indi-

**Table 5.** SEM Standardized Coefficients of Measurement Models for Four Age Groups

Factor/Items	Age 10 - 19		Age 20 - 29		Age 30 - 39		Age 40 - 49	
	Standardized Coefficients	P-Value	Standardized Coefficients	P-Value	Standardized Coefficients	P-Value	Standardized Coefficients	P-Value
<b>Cultural</b>								
C1	0.100	-	0.212	-	0.336	-	0.402	< 0.001
C2	0.123	0.038	0.407	< 0.001	0.445	< 0.001	0.384	< 0.001
C3	-0.886	0.796	0.235	< 0.002	0.001	0.994	0.423	< 0.001
C4	0.077	0.149	0.490	< 0.001	0.432	< 0.001	0.592	< 0.001
C5	0.625	0.780	0.561	< 0.001	0.735	< 0.001	0.538	< 0.001
<b>Social</b>								
S1	0.295	0.060	0.362	< 0.001	0.453	< 0.001	0.315	< 0.001
S2	0.194	0.130	0.139	< 0.001	0.145	< 0.001	0.001	0.984
S3	0.482	0.046	0.515	< 0.001	0.539	< 0.001	0.457	< 0.001
S4	0.330	0.062	0.298	< 0.001	0.272	< 0.001	0.406	< 0.001
S5	0.509	0.046	0.608	< 0.001	0.636	< 0.001	0.621	< 0.001
S6	0.527	0.054	0.485	< 0.001	0.405	< 0.001	0.432	< 0.001
S7	0.211	-	0.323	-	0.316	-	0.361	< 0.001
<b>Economical</b>								
E1	0.144	0.133	-0.144	< 0.001	-0.152	< 0.001	-0.220	< 0.001
E2	0.535	< 0.001	0.611	< 0.001	0.618	< 0.001	0.756	< 0.001
E3	0.272	0.005	-0.144	< 0.001	-0.141	< 0.001	-0.106	0.074
E4	0.708	-	0.587	-	0.629	< 0.001	0.451	< 0.001

**Table 6.** SEM Standardized Coefficients with Childbearing Desire (CD) Response for Four Age Groups

Predictor Variables	Age 10 - 19		Age 20 - 29		Age 30 - 39		Age 40 - 49	
	Standardized Coefficients	P-Value	Standardized Coefficients	P-Value	Standardized Coefficients	P-Value	Standardized Coefficients	P-Value
<b>Cultural children value factor</b>	0.306	0.506	0.312	0.065	0.052	0.027	0.370	< 0.001
<b>Social children value factor</b>	-0.160	0.266	-0.181	0.270	-0.025	0.571	0.201	0.083
<b>Economic children value factor</b>	0.406	0.133	-0.124	0.152	-0.058	0.197	-0.046	0.620

cated that the importance of economic value of children between rural students was more than urban students and had a significant influence on their fertility behavior (36).

As the consequences of the parents' decisions regarding fertility in the community is very important, planners and policy makers should consider changes in cultural values of children and its determinants. In addition, if they are going to implement successful policies to alter the decreasing trend of fertility, the impact of age variable should also be considered.

**Footnotes**

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