

Value of Children and Iranians' Perception on Ideal Number of Children: Application of Path Analysis

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Abstract

Background: The value of a child for parents is one of the most important variables for explaining fertility in population studies. The main goal of this study was to assess the value of children among Tehrani families. Attempts were made to understand the respondents' perception of the different dimensions of children's value and its effects on the ideal number of children (INC).

Methods: The present cross-sectional study was conducted on 1200 respondents selected by stratified multi-stage sampling who were living in Tehran, Iran in 2017. Data were collected by a questionnaire including demographic and attitudinal questions. For descriptive analysis of the data, SPSS-17 was used and the factors influencing the INC were examined by path analysis applying AMOS-22.

Results: Goodness of Fit Indices confirmed the fitted model. Among psychological, social and economic factors of children's value, positive social and economic and negative psychological factors had significant direct effect on INC (p -value <0.001). Thus, an increase in the value of positive social and economic factors and a decrease in value of negative psychological factor would increase INC.

Conclusion: Since the most influential positive and negative factors on respondent's INC were positive social and negative psychological ones, respectively, to cause any changes in INC, policy makers should consider value of children as a multi-factorial phenomenon and adapt family policy according to socio-economic conditions in Iran.

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Introduction

The value of a child for parents is one of the most important variables for explaining fertility in early and recent population studies (1-3). In addition to demographic studies, some economists have, often theoretically, explored the determinants of family fertility decisions. The pioneer works on family fertility have primarily been conducted by some economists like Becker and Lewis (4). The most prominent economic theory of fertility is Gary Becker's theory of "quality and quantity of children". Becker believes that the quality and quantity of children are two substitute commodities. Therefore, parents who pay more attention to the quality of their children tend to have a smaller number of them. Becker (5) states that if family's income increases, parents provide a higher level of living for their children. With the increase in income, parents may increase the number of children, *i.e.* their demand for a child. Based on Becker's theory, as parents consider the child as a durable commodity, when family income increases, according to the microeconomic theory, the two effects of "substitution" and "income" will be created and will increase both the quality and quantity of children. The greater the substitution effect, the more willing are families to prefer quality of children over their quantity (5). Becker also considered the role of "time and money" in fertility behavior within the framework of the "opportunity cost" theory. In this theory, Becker considers human beings as logical creatures that make decisions based their highest interests. One of the decisions everyone has to make during life is to decide on the number of children. As mentioned, based on Becker's theory, children are like commodities that parents need to spend time and money to acquire. A benefit is considered for each child indicates the relationship between the desire of couples to have children or all the commodities and activities that compete with the child in terms of time and money (5).

Costly childbearing is one of the discourses that has emerged after the social and economic changes in different societies. It is in line with theories related to the negative values of children. In this regard, Caldwell points to rising child costs and the pace of social change, and believes that when children's costs outstrip their potential benefits for parents, parents describe childbearing as costly, leading to a reduction in fertility (6). With regard to social change, the results of Fazeli et al.'s (7) study show that the concept of child's value is a

society-dependent variable and that fertility behavior is more affected by economic and social structures. Similarly, the study of Rajabi and Hasheminya (8) suggests that in terms of the economic and social benefits of the child, child's value has a direct significant relationship with fertility, both the ideal and true fertility levels. Their results also suggest that women tend to have more children to continue and stabilize their families.

Following the above approaches and with the development and modernization, recent sociological theory describes the benefits and disadvantages of childbearing as a risky process. Here, the theory is about the changing nature of risk which connects it with choices and opportunities that are expanding rapidly. This theory argues that these choices and opportunities, in turn, foster worries and uncertainties and induce avoiding long-term commitments such as childbearing (9-11).

The possibility of avoiding long-term commitments points to the discourse that the childbearing pattern is now outside the traditional framework; today, childbearing is done after contemplating its value. The results of Abdollahi and Farjadi's (12) study confirm this argument as well as the above theoretical arguments. The attitudinal changes taking place in Tehran have led families to consider childbearing as a long-term commitment and a compulsory responsibility. They, thus, are seeking to avoid childbearing as an irreversible decision. These conditions have made Tehrani couples emphasize quality rather than quantity and giving birth to fewer children as a rational act.

The main goal of this study was to assess the value of children in Tehran, and to understand the respondents' perception about the different dimensions of child's value and its effects on the ideal number of children (INC). Children ever born (CEB) of people who had newborns during the one or two years before the data collection in this study were not considered as dependent variable due to the small number of sample size (Almost 15 percent) which may cause model fitting problems. Moreover, the value of children was calculated according to the attitudinal dimensions such as psychological, social and economic factors. Bagheri et al. (13) also studied socio-economic factors of children's value which affects INC in Tehran. The significant difference between the mentioned study and the current one is their sample sizes, gender as a control variable and fitting different models for men and women. Another

er difference is about the influential factors in these two studies. Although the mentioned article provided similar diagrams, different influential factors and accordingly different results were obtained which are not similar to the findings of the current study. Figure 1 presents the theoretical framework of this study is based on the theories of the quality and quantity of children (5), economic costs of having children (14, 15) and the theory of risk aversion (16).

Methods

Path analysis is a very general and convenient framework for statistical analysis, which is widely used in behavioral sciences. It can be viewed as a combination of factor analysis and several traditional multivariate regression procedures. The relationships between the theoretical constructs are represented by regression or path coefficients between the factors (17). This section is devoted to a brief introduction of this method and also data in this study.

Statistical analysis

A path diagram shows the causal relations between observed (or measured) and latent (or unmeasured) variables. In this diagram boxes and circles represent observed and latent variables, respectively, and their relations are determined by arrows. Correlations, without a causal interpretation are indicated by double headed arrows, and single headed arrows used to define causal relationships in the model.

Path model is estimated based on regression for each variable in the model as a dependent on others which the model indicates are causes. Goodness of fit measures based on chi-square statistic can be applied for selecting the best model.

Hoyle (18) has introduced two goodness-of-fit indices called GFI (Goodness of Fit) and AGFI (Adjusted GFI). The GFI indicates goodness-of-

fit, and the AGFI attempts to adjust the GFI for the complexity of the model. If the model fits perfectly, the fit indices should have the value 1. Usually, a value of at least 0.90 is required to accept a model, while a value of at least 0.95 is required to judge the model fit as 'good.' However, these are just rules of thumb.

To assess how well a given model approximates the true model, an index called RMSEA (Root Mean Square Error of Approximation) was developed. If the approximation is good, the RMSEA should be small. Typically, a RMSEA of less than 0.05 is required. The values of RMSEA less than 0.05, between 0.05 and 0.08 and between 0.08 and 0.1 indicate good, acceptable, and mediocre fit, respectively (17).

There are a number of researches which applied path analysis to study demographic data (19-21). Kariman et al. (21, 22) applied this model to analyze first childbearing decision of women. Ter Keurst et al. (19) studied women's intentions to use fertility preservation to prevent age-related fertility decline. Kariman et al. (22) indicated factors influencing first childbearing decisions among men. Reshadat et al. (23) also researched on the cultural effective factors on women's total fertility rate (TFR) in reproductive age.

In the present study, before interviewing, the aim of the study was explained to the respondents and oral consent was obtained. Moreover, the ethics code (NO.21.26845) was obtained from National Population Studies and Comprehensive Management Institute. 10 sociologists confirmed the validity of the questionnaire and for each sub-item of questionnaire, the reliability based on Cronbach's alpha was at least 0.74. The data in this study were analyzed by SPSS-17 to present descriptive statistics and AMOS-22 to fit path analysis of selected variables on INC.

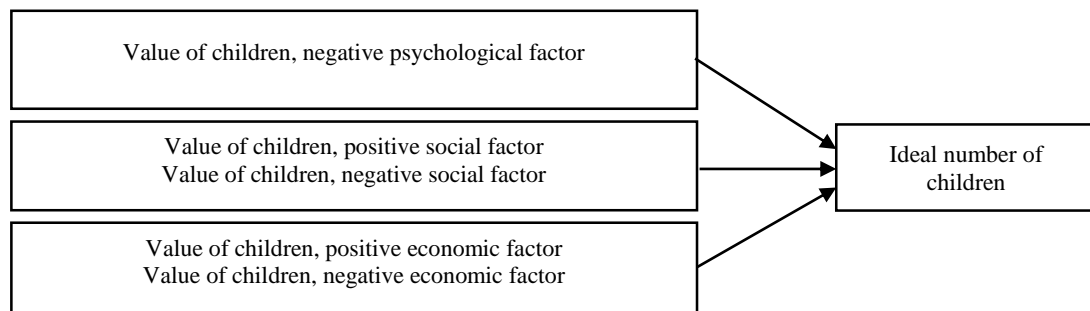


Figure 1. The theoretical framework evaluating the value and ideal number of children among Iranian families

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Data

The main aim of this study was to apply path analysis to find the effect of influential factors regarding the value of children on respondents' INC by using data of a survey entitled "effects of socio-economic rationality dimensions on child-bearing behavior in Tehran" (24). However, considering contraceptive methods and biological variables like infertility, and recurrent miscarriage variables could improve the results of the study; these data were not available in the mentioned survey.

Therefore, 1200 eligible 20-59 year- old men and 15-49 year- old women were studied by using stratified multi-stage sampling in Tehran, Iran in 2017. Respondents' INC resulted from this question "How many daughters and sons do you desire to have?". Data were collected using a questionnaire including demographic information and 17 questions regarding the value of children. The statements including negative psychological factor were (a) the children's noise makes me angry, (b) the comfort of my life will be reduced by having a kid or kids, and (c) childbearing means getting scared and worried. Also, negative social factor statements included (a) the kid brings trouble to life, (b) nowadays it's hard to train a kid, (c) it is difficult to travel and have leisure by having a kid, (d) enjoying life is more important than having a kid, and (e) having a kid means engaging in a long-term commitment. Positive social factor statements were (a) the kid gives meaning to the life, (b) kids make life less uniform, (c) the child will strengthen the relationship between couples, (d) childbearing causes continuation of the generation, and (e) families with children are more likely to feel happier than childless families. Negative economic factor statements included (a) having a child imposes a heavy financial burden nowadays, (b) the majority of family expenses are spent on the kid, (c) fulfilling children's expectations is very costly and positive economic factor statement was (a) the kid will be helpful during aging and loneliness of the parents. These questions were scored using a Likert scale ranging from completely disagree (Code 1) to completely agree (Code 5).

Results

In all, 590 males and 610 females in this study had mean ages of 39.76 ± 9.47 and 35.38 ± 7.91 years, mean marital ages of 27.13 ± 4.39 and 22.54 ± 4.56 , and mean duration of marriages of

12.61 ± 10.06 and 12.83 ± 8.85 , respectively. A total of 88 and 90 percent of males and females were born in urban areas, respectively. The males' and females' mean desired number of children was 2.50 ± 1.50 and 2.37 ± 1.22 , respectively. A total of 49.5 percent of females and 44.3 percent of males had university education and 87.1 percent of males and 32 percent of females were employed. A total of 50.6 percent of males and 48.3 percent of females were tenants. The majority of the respondents (Almost 50 percent) had a monthly expenditure of 10,000,000 to 20,000,000 Rials. Table 1 presents the mean, standard deviation (SD), and the minimum and maximum values obtained for the value of children factor and INC in this study. According to the results of this table, respondents agreed with this statement that "child-bearing causes continuation of generation" (Positive social statement), and disagreed with the statement that "nowadays it's hard to train a kid" (Negative social statement). Path analysis was used to examine the effect of the factors related to the value of children which was calculated by averaging the values in each dimension based on the theoretical framework in figure 1. The fitted model was assessed through a number of indices shown in table 2. According to the results, the three indices of RMSEA, GFI, and AGFI confirm the goodness of the fitted model.

The schematic plot of the path model is presented in figure 2. Table 3 presents the measured coefficients in the fitted model. As a conclusion, negative psychological, positive social and economic factors of children's value influenced INC (p -value <0.001).

The most significant influential factor on INC was positive social factor ($\beta=0.312$) and the least significant one was positive economic factor ($\beta=0.113$) (Table 3). Thus, by increasing positive social and economic values of children factors, respondents' INC will increase. However, increasing negative physiological value of children factor causes a decrease in their desired number of children ($\beta=-0.153$). Moreover, by increasing positive social factor of children's value the value of negative social factor would decrease ($\beta=-0.108$). Also, if the value of negative physiological factor of children's value increases, the value of negative social factor will decrease ($\beta=-0.207$).

Discussion

One of the important functions of the family is childbearing. But this is not the only reason for

Table 1. Frequency distribution of the studied variables

Variables		Mean±SD	Minimum	Maximum
Ideal number of children (INC)		2.43±1.37	0.0	10.0
Negative psychological factor	(a)	2.12±1.23	1	5
	(b)	2.45±1.20	1	5
	(c)	2.49±1.24	1	5
Negative social factor	(a)	2.25±1.17	1	5
	(b)	1.18±0.93	1	5
	(c)	3.13±1.36	1	5
	(d)	2.72±1.16	1	5
	(e)	3.78±1.26	1	5
Positive social factor	(a)	4.32±0.79	1	5
	(b)	4.29±0.78	1	5
	(c)	3.97±1.08	1	5
	(d)	4.36±0.77	1	5
	(e)	2.40±1.08	1	5
Negative economic factor	(a)	1.90±1.03	1	5
	(b)	3.53±1.08	1	5
	(c)	3.98±0.93	1	5
Positive economic factor	(a)	3.28±1.25	1	5

Table 2. Goodness of fit indices of fitted model

Model index	RMSEA	GFI	AGFI
Value	0.021	0.997	0.991

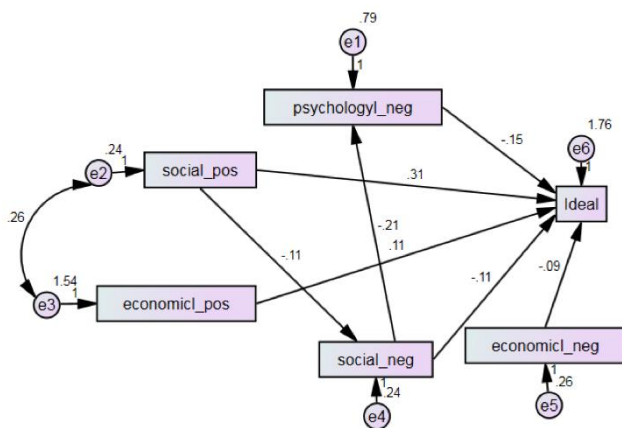


Figure 2. The path diagram of value of children factors influencing INC

having the children. For family, children are the source of happiness, pleasure, and affection and they can have benefits or impose costs on parents

both socially and economically. Although a number of studies investigated the value of children (Costs and benefits), the current study also examined the social, psychological and economic attitudes of respondents regarding their desired number of children by applying path analysis.

According to the results, the most influential factor on respondents' INC was positive social factor of children's value. As a result, an increase in these positive social factor of children's value would increase respondents' INC. Rajabi and Hasheminya (8) and Pestieau and Ponthière (25) have similarly shown that women who had positive social views about the Children's value reported more desire for higher number of children. The promotion of positive social factors can avoid new social risks for Tehrani families. However, new social risks are related to socio-economic transformations that post-industrial societies have created (26-28). But some factors like the conflict between work and family life and single parenthood can emerge in Iran, at least in the next decade, and finally put INC at risk.

Ghorbani (29) concluded that the least significant value of children for couples is the economic

Table 3. Path analysis of children's value related factors influencing INC

Relations	Estimates	SD	p-value
Negative social factor → Positive social factor	-0.108	0.028	0.000
Negative psychological factor → Negative social factor	-0.207	0.053	0.000
INC → Negative psychological factor	-0.153	0.043	0.000
INC → Negative social factor	-0.106	0.086	0.183
INC → Positive social factor	0.312	0.080	0.000
INC → Negative economic factor	-0.087	0.075	0.247
INC → Positive economic factor	0.113	0.034	0.000

values. Aycicegi-Dinn and Kagitcibasi (30) indicated that the importance of economic factors in rural students was more than urban students and had significant influence on their fertility behavior. Moradi et al. (31), Abbasishavazi and Khani (32) also showed that financial factors are involved in childbearing intentions. All these researches confirm the results of this study. The increasing inflation rate particularly during the last five years in Iran shows the importance of economic security and its impact on INC.

Negative psychological factors result in decreased INC according to the results of this study. Mayer (33) and Mayer and Trommsdorff (34) reported in their studies the significant influence of this factor on fertility determinants.

Based on the results, it could be concluded that values of children should be considered as a multi-factorial phenomenon. Also, policy makers need to pay attention to new socio-economic values and related changes in Iran. In other words, family policies should adapt with socio-economic conditions of Iranian society to achieve a comprehensive understanding of changes on INC.

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Conflict of Interest

Authors declare no conflict of interest.

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ارزش فرزندان و نگرش افراد مورد تعداد فرزندان ایده‌آل: رهیافت تحلیل مسیری

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چکیده

مقدمه: ارزش فرزند برای والدین یکی از مهمترین متغیرهای تاثیرگذار روی باروری در مطالعات جمعیتی است. هدف اصلی این مقاله بررسی نگرش افراد ساکن در تهران در مورد ارزش فرزندان و ارزیابی تأثیرات آن بر تعداد ایده‌آل فرزندان (INC) بود.

روش‌ها: در این مطالعه مقطعی، ۱۲۰۰ فرد ساکن تهران به روش نمونه‌گیری طبقه‌ای چند مرحله‌ای انتخاب شدند و اطلاعات جمعیتی و نگرشی آنها بر اساس پرسشنامه جمع‌آوری شد. به منظور توصیف داده از نرم‌افزار SPSS-17 و برای بررسی عوامل تاثیرگذار بر تعداد ایده‌آل فرزندان از روش تحلیل مسیری و نرم‌افزار Amoss-22 استفاده شد.

نتایج: شاخص‌های نیکویی برازش، مدل برازش شده را تأیید کردند. از بین عوامل روانشناختی، اجتماعی و اقتصادی موثر بر ارزش فرزند، عوامل اجتماعی و اقتصادی مثبت تأثیرات مستقیم و معنی‌داری بر تعداد ایده‌آل فرزندان داشتند و عوامل روانشناختی منفی بر متغیر مذکور بصورت مستقیم تأثیر معنی‌داری داشتند ($p < 0.001$). بنابراین، با افزایش عوامل مثبت اجتماعی و اقتصادی و کاهش عوامل منفی روانشناختی ارزش فرزند، تعداد ایده‌آل فرزندان افزایش می‌یابد.

نتیجه‌گیری: از آنجا که مؤثرترین عوامل مثبت و منفی بر تعداد ایده‌آل فرزندان، به ترتیب عوامل اجتماعی مثبت و روانشناختی منفی بودند، برای ایجاد هرگونه تغییر در تعداد ایده‌آل فرزندان، ارزش فرزندان می‌بایست بعنوان یک پدیده چند عاملی توسط سیاستگذاران مورد ارزیابی قرار گیرد و سیاستگذاری خانواده و تغییرات آن مطابق با میزان اثرگذاری عوامل ذکر شده و شرایط اقتصادی و اجتماعی حاکم در ایران تبیین و اجرایی شوند.

واژه‌های کلیدی:

تعداد ایده‌آل فرزندان، تحلیل مسیری، ارزش فرزندان

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