

## Religious Beliefs and Fertility Preferences among Engaged Couples, Referring to Premarital Counseling Centers of Mashhad, Iran

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p>	<p><b>Background &amp; aim:</b> Considering the lack of information regarding the effects of religion on young couples' fertility preferences, this study aimed to evaluate the relationship between religious beliefs and fertility preferences among engaged couples in Mashhad, Iran, in 2013.</p> <p><b>Methods:</b> This cross-sectional study was conducted on 450 engaged couples, referring to premarital counseling clinics at healthcare centers of Mashhad. Convenience sampling was applied and data were collected using Miller's Fertility Preferences and Childbearing Questionnaires (1995), Khodayari's Religious Attitude Questionnaire, and a demographic questionnaire; all four questionnaires were completed by the participants. Spearman's correlation, Chi-square test, Mann-Whitney, and Kruskal-Wallis tests were used for data analysis. The significance level was considered to be 0.05.</p> <p><b>Results:</b> Scores of religious beliefs were low, moderate, and high among 5.7%, 62.1%, and 32.2% of the couples, respectively. Childbearing desires (<math>P \leq 0.001</math>), ideal number of children (<math>P \leq 0.001</math>), and birth interval (<math>P \leq 0.001</math>) showed significant differences in groups with low, moderate, and high scores of religious beliefs. The mean number of children desired by the groups with low, moderate, and high religious belief scores was <math>2.24 \pm 1.49</math>, <math>2.21 \pm 0.87</math>, and <math>2.69 \pm 1.37</math>, respectively. In total, 42.2% of the participants were moderately affected by religious beliefs.</p> <p><b>Conclusion:</b> Fertility motivations and the ideal number of children were higher among individuals with stronger religious beliefs; however, even among these religious people, fertility preferences were not favorable, compared to figures recommended by reproductive health policymakers. These findings can contribute to the improvement of reproductive indices and fertility reforms towards higher fertility rate in the country.</p>
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### Introduction

Fertility is the most important variable affecting population growth rate. It is affected by cultural values and norms in a society (1). Fertility preferences refer to one's feelings and desires for reproduction (2-6). These preferences consist of three dimensions including childbearing desires, ideal number of children,

and birth interval.

Reproduction, as part of one's social life, is directed and supported by different attitudes, beliefs, rewards, and penalties (7). Fertility and childbearing motivations and preferences are intricate issues with cultural, behavioral, and ideological backgrounds, which vary depending on the socio-economic development of a

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community (1).

The census results and statistics indicated a drop in total fertility rate from 7.7 children per woman in 1966 to 2.17 and 1.8 children in 2000 and 2006, respectively. Currently, the fertility rate in Iran is estimated at 1.6 births per woman (8, 9). These figures indicate that the country is experiencing a fertility rate below the replacement level (10).

Continuous decline in fertility rate and changes in fertility trends (from unplanned to controlled pregnancy) have shifted the age structure toward older ages (11). Various effective factors contribute to fertility changes in our country including increased education level, educational and healthcare policies, support from religious authorities, reduced neonatal mortality, financial problems, economic pressure leading to marriage delay or increased age of marriage (12), personal and social factors, social norms, attitudes towards childbearing, and social interactions (13-16).

In population studies, little attention has been paid to religious beliefs as an influential factor leading to fertility changes (7). Religion is a structured system of designed approaches and beliefs which facilitate spiritual development (17). Religion as a cultural factor affects fertility through influencing various norms associated with family size, number of children, marriage age, and other intermediate variables (7).

In Islamic beliefs, opposite-sex marriage is the foundation of family formation and is determinant of each person's responsibilities towards his/her spouse and family members (18). Many Quranic verses and religious narratives have highlighted the importance and value of fertility (19). Spiritual principles of Islam (20) pay particular attention to early marriage and high fertility rate (7). In fact, all religions have encouraged reproduction.

In a qualitative study by Khadivzadeh (2014), childbearing desire was strong among religious individuals, despite the influence of other factors (21, 22); in fact, these individuals were less affected by other underlying or intervening factors such as education level, occupation, and fertility trends in society. Some experts believe that increased divorce rate and social traumas are the results of religion's waning influence in a community (23, 24).

Statistics show that in 2013, 18 divorces per hour were recorded in the country (25).

Considering the importance of fertility in a country, fertility trends can be predicted and population growth can be controlled by recognizing factors associated with fertility preferences and desires. In fact, integral and permanent population policies cannot be planned without a comprehensive and accurate study of current factors influencing fertility (26).

Although various studies have evaluated fertility preferences (2-6, 27-31), little research has addressed the role of religious beliefs. A study by Sikandar et al. (2012) demonstrated that 7% of female participants in Pakistan do not use family planning due to religious convictions (27). Yeatman's study (2008) revealed that fertility rate was higher among Malawi Muslims and the rate of using contraceptive methods was lower among them (32).

Borooah et al. (2004) showed that the fertility rate of Muslim Hindus was higher than the total Hindu population (33). In addition, Caldwell (1987) indicated that high fertility rate was significantly affected by religious principles (34). His findings indicated that believers in traditional African religions had higher fertility rates, compared to Muslim and Christian populations.

A study by Mahmoodian and Nobakht (2010) revealed that the fertility rate of Sunni women was higher than that of the Shia population in Fars province, Iran (7). In addition, Abassi-Shavazi (2004) studied fertility tendencies in four provinces of Iran and showed that religion could significantly affect fertility rate in any region (35). Moreover, Hashemian and Golmohamadi (2013) demonstrated that the fertility rate of Sunni women was higher than that of the Shia population in Khorasan province (36). However, the study by Moghadas et al. (2004) showed no significant difference between Shia and Sunni Afghan refugee women, residing in Mashhad (30).

Studies conducted in other countries have mainly focused on fertility preferences and number of children in different religious groups. Although Iranian studies have compared the fertility rate of different groups based on their religion, no previous research has assessed the relationship between fertility preferences and

level of religiosity.

Considering the lack of information regarding the role of couples' religious beliefs in fertility preferences in our society, we aimed to evaluate religious beliefs and their association with fertility preferences among engaged couples, referring to premarital counseling clinics at healthcare centers of Mashhad in 2013.

## Materials and Methods

In this cross-sectional study, young couples, referring to premarital counseling clinics at healthcare centers of Mashhad, were selected using convenience sampling. The inclusion criteria were as follows: 1) Iranian nationality; 2) being a Muslim; 3) first marriage; and 4) consent to participate in the study.

The research setting included four healthcare centers with premarital counseling services (Vahdat, Shahid Qodsi, Samen, and DaneshAmooz centers). The participants were residing in Mashhad or had decided to stay in this city. The sample size was estimated, based on the findings of a study performed by Pezeshki et al. in 2004 (3). The sample size of each center was determined, based on the frequency of referral to that center over the past month.

Data collection tools included a demographic questionnaire, Khodayari's Religious Attitude Questionnaire (with 23 items), Miller's Fertility Preferences Questionnaire, and Miller's Childbearing Questionnaire (CBQ). In the Religious Attitude Questionnaire, participants answered the questions by using a rating scale including the following options: completely agree, agree, disagree, and completely disagree; the scores ranged between 23 and 92.

Fertility preferences were measured by Miller's questionnaire (1995), consisting of 10 items. This questionnaire represented childbearing desire, ideal number of children, preferred sex of children, and ideal time for childbearing. In order to rank the subjects' childbearing desire, a numerical rating scale was applied. In this scale, the subjects expressed their childbearing desire by marking or drawing a circle around a number. Number 1 showed the lowest level of desire and higher numbers indicated stronger childbearing tendencies (10 indicated the strongest desire).

Open questions related to the ideal number of children, preferred time for childbearing, and gender preferences were asked from the participants. The questions were concerned with the effect of religious beliefs on fertility decisions and included the following options: high (score 4), moderate (score 3), low (score 2), and not at all (score 1).

Fertility motivations were estimated using the revised version of CBQ, which included two major scales (2). One of these two scales was positive fertility motivations including four subscales of "joy of pregnancy, birth, and infancy", "traditional parenthood", "satisfaction of child rearing", "feeling needed and connected", and "instrumental values of children"; this questionnaire comprised of 34 items. In the Farsi version, seven items were added to Miller's scale of positive motivations, which were derived from the qualitative study of Khadivzadeh (21) at Mashhad University of Medical Sciences.

The scale of negative childbearing motivation in Miller's questionnaire comprised of three subscales including "fear and worries of parenthood", "parental stress", and "challenges of child care"; this scale consisted of 19 items. Four-point Likert scale was used for ranking fertility motivations, grading from completely disagree to completely agree (scores 1-4) (2).

Content validity and face validity were used to confirm the validity of demographic and Miller's questionnaires. The questionnaires were presented to 10 faculty members of Mashhad University of Medical Sciences and after including the given suggestions, the instruments were used in the study.

Test-retest was used to confirm the reliability of Miller's fertility preferences. The questionnaire was completed by 10 couples and after two weeks, the same questionnaire was answered by the same subjects. The correlation between the two steps was estimated at 0.81-0.86 for different questions and thus, its reliability was confirmed. Cronbach's alpha coefficients were 0.91 and 0.94 for positive and negative childbearing motivation scales, respectively.

The validity of Religious Attitude Questionnaire has been evaluated and confirmed by Khodayari (37) and the obtained Cronbach's

alpha was estimated at 0.89.

Spearman's correlation test was used for assessing the association between quantitative variables. Mann-Whitney test was applied to compare the means of two independent groups and Kruskal-Wallis was employed to compare the means of three independent groups. Data were analyzed using SPSS version 11.5 and the level of confidence was considered to be 0.05.

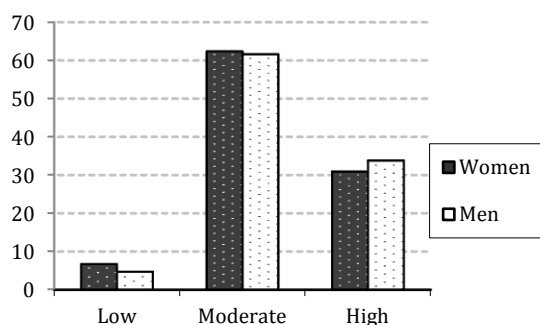
## Results

### Demographic findings

The mean ages of female and male subjects were  $22.17 \pm 4.84$  and  $26.04 \pm 4.62$  years, respectively. Overall, 92.4% and 91.8% of female and male subjects were born in the city, respectively; 49.6% of female and 45.3% of male subjects had university education. In addition, 77.6% of women and 12.7% of men were unemployed. In total, 15.8% and 71.8% of female and male subjects had adequate income, respectively.

Findings indicated no significant difference between women ( $65.83 \pm 14.21$ ) and men ( $66.27 \pm 15.21$ ) in terms of the mean and SD of religious beliefs ( $P=0.652$ ). Figure 1 shows that religious attitude scores of the majority of men and women were moderate.

Table 1 represents the fertility preferences of couples, based on the scores of religious



**Figure 1.** Percentage of men's and women's scores of religious beliefs in Mashhad in 2013 (low, moderate, and high). Kruskal-Wallis test results revealed a significant difference between childbearing desire, ideal number of children, and desired birth interval in groups with low, moderate, and high scores of religious attitude.

In terms of childbearing desire and interval between marriage and birth of the first child, Mann-Whitney test results showed a significant difference between subjects with high religious scores and those with moderate or low scores ( $P < 0.001$  in all cases). In terms of the ideal number of children, there was a significant difference between groups with moderate and high scores of religious beliefs ( $P < 0.001$ ). However, no significant difference was observed between groups with low and moderate scores in all subscales of fertility preferences.

Spearman's correlation test showed that religious beliefs were directly correlated with childbearing desire ( $r=0.252$ ,  $P < 0.001$ ) and ideal number of children ( $r=0.221$ ,  $P \leq 0.001$ ). However, religious beliefs were inversely associated with the desired childbearing time ( $r=-0.127$ ,  $P < 0.001$ ). In addition, a positive significant correlation was observed between religious beliefs and the ideal number of daughters ( $r=0.204$ ,  $P=0.002$ ) and sons ( $r=0.192$ ,  $P=0.001$ ).

Table 2 shows the correlation between positive and negative fertility motivations and scores of religious beliefs. Findings revealed a direct relation between religious attitude scores and all subscales of positive fertility motivations; however, a significant inverse relationship was observed between scores of religious beliefs and two subscales of negative fertility motivations including "challenges of child care" and "parenting stress".

On the other hand, a strong relationship was observed between scores of religious beliefs and the total score of positive fertility motivations; however, the total score of negative fertility motivations did not show a significant relationship with scores of religious beliefs.

Table 3 shows the subjects' answers to the question concerning the effect of religious beliefs on childbearing decisions. Most of the participants remarked that they were moderately influenced by religious beliefs.

Chi-square test was used to determine which gender was more affected by religion regarding fertility decisions. The results indicated no significant difference between the two genders in terms of being affected by religion ( $P=0.069$ ).

Marriage age was  $24.5 \pm 4.7$ ,  $24.2 \pm 4.9$ , and  $23.8 \pm 5.4$  years in groups with low, moderate,

**Table 1.** Subjects' fertility preferences, based on religious beliefs

Fertility preferences	Low n=51	Moderate n=558	High n=291	Kruskal-Wallis test results
	Mean (SD)	Mean (SD)	Mean (SD)	
Childbearing desire	4.49(2.87)	5.16 (2.67)	6.57 (3.01)	Chi=49/97 P<0/001
Ideal number of children	2.24 (1.49)	2.22(.87)	2.69 (1.37)	Chi=37/96 P<0/001
Preferred interval between marriage and birth of the first child	28.9 (24.5)	32.6 (19.9)	27.61 (20.68)	Chi=23/80 P<0/001
Preferred interval between birth of the first child and the second	44.53 (22.47)	40.30 (19.25)	40.36 (30.25)	Chi=1/381 P=0/501

**Table 2.** Correlation between religious beliefs and subscales of fertility preferences

Subscales of fertility Motivations	Religious beliefs	
	R	P-value
Joy of pregnancy and birth	0.175	0.001
Traditional parenthood	0.306	0.001
Satisfaction of child rearing	0.185	0.001
Feeling needed and connected	0.197	0.001
Instrumental values of children	0.202	0.001
Positive fertility motivations	0.259	0.001
Fear and worries of parenthood	0.029	0.039
Parenting stress	-0.107	0.001
Challenges of child care	-0.071	0.032
Negative child bearing motivations	-0.060	0.073

**Table 3.**

Influence of religion on fertility decisions	Females	Males
	Number (percentage)	Number (percentage)
High	199(26.4)	137(30.4)
Moderate	208(46.2)	172(38.2)
Low	65(14.4)	65(14.4)
Zero	58(12.9)	76(16.9)

and high scores of religious beliefs, respectively. Kruskal-Wallis test indicated no significant difference in marriage age between groups with different religious beliefs ( $P=0.012$ ).

## Discussion

The purpose of this study was to evaluate religious beliefs and their relationship with fertility preferences among engaged couples. Overall, 62.1% of the couples were moderately religious. The results of our study revealed that religious beliefs had a significant positive relationship with childbearing desire and ideal number of children. However, an inverse significant correlation was observed between religious beliefs and the desired childbearing time.

In addition, there was a significant difference between the scores of childbearing desire, ideal number of children, and preferred time for childbearing in groups with low, moderate, and high scores of religious beliefs. Our findings showed that high scores of religious beliefs were associated with stronger childbearing desire, higher number of children desired, and shorter time interval between marriage and birth of the first child. These findings are consistent with those obtained by

Khadivzadeh and colleagues in 2013 (21, 38).

Many Quranic and Islamic verses have highlighted the high value of childbearing (19). In previous studies, it was shown that religious people tend to give birth in order to raise the Muslim population (21). Some of these studies indicated that in religious people's view, family planning methods are against God's will (27, 30). A study by Langdrigg et al. (2005), in U.K. showed that religion is one of the reasons for childbearing (39). Frejka (2013) demonstrated that higher fertility rate in U.S., compared to European countries, is related to their religious beliefs (40).

Soroush and Bahrani (2013) evaluated married women in Shiraz, Iran and found a significant positive relationship between religion and the real number of children. However, there was no correlation between religious beliefs and the number of children desired, which was not consistent with our study results (41).

Even though couples in the present study were moderately religious, childbearing desire was not strong and the ideal number of children was low; also, the desired time for childbearing after marriage was long. The mean difference in the desired number of children between groups with low and high scores of religious beliefs was 0.45; this difference between groups with medium and high scores was only 0.47.

Our findings showed that individuals with high scores of religious beliefs obtained higher scores in subscales of "joy of pregnancy, birth, infancy",

"traditional parenthood", "satisfaction of child rearing", "feeling needed and connected", and "instrumental values of children". However, the results revealed no relationship between religious beliefs and negative fertility motivations.

Our findings demonstrated the role of religion in the formation of positive fertility motivations. Overall, 27% of women and 31% of men stated that the influence of religion on their fertility decisions was insignificant; most of them pointed out that religion had a moderate effect on their fertility decisions.

According to the current findings, although childbearing desire and positive fertility motivations were stronger among couples with higher scores of religious beliefs, the ideal number of children was not favorable, compared to figures expected by population policy makers and planners. Despite strong and moderate religious beliefs among young people at marriage time, the findings indicated that fertility preferences are affected by some other factors besides religion.

In this regard, Rijkman and Liefbroer (2009) evaluated the effect of interaction in social networks on couples' decision-making for childbearing. According to their findings, the more couples knew about each other, the sooner they started childbearing (42). Role of personal motivations (2, 3, 43, 44), interaction with social network members (14, 21, 45), media (46), financial factors (47, 8, 21) and cultural factors (8, 21) on fertility have been addressed in previous studies. Role of interaction with social network members was evaluated in this study as well and the results are reported in another article (48).

The current findings can contribute to the improvement of reproductive indices and reform of fertility preferences. It is recommended that further research be conducted regarding fertility preferences in different regions of Iran and different groups with various cultural, social, and religious backgrounds.

### Conflict of Interest

The authors declare no conflicts of interest.

### References

1. Keshavarz H, Bahramian M, Mohajerani AA, Hossein-Pour K. Factors affecting differences in fertility behavior of Resident and migrating tribes of Samirom. *Health System Research*. 2012; 8(3):456-465. [Persian]
2. Miller W B. Child bearing motivation and its measurement. *Journal of Biosocial Science*. 1995; 27(4): 473-487.
3. Pezeshki MZ, Zeighami B, Miller WB. Measuring the childbearing motivation of couples referred to the shiraz health center to premarital examination. *Journal of Biosocial Science*. 2005; 37(1): 37-53.
4. Eslamlou Farrokh HR, Vahabzadeh Z, Moeini SR, MoghadamTabrizi F. Pre-Marriage Couples Fertility Attitude Following Recent Childbearing Persuasive Policies In Iran. *The Journal of Urmia Nursing and Midwifery Faculty*. 2014; 11(10): 836-846. [Persian]
5. Miller WB, Bard DE, Pasta DJ, Rodgers JL. Biodemographic modeling of the links between fertility motivation and fertility outcomes in the NLSY79. *Demography*. 2010; 47(2):393-414.
6. Miller WB, Pasta DJ. Motivational and nonmotivational determinants of child-number desires. *Population and Environment*. 1993; 15(2):113-38.
7. Mahmoudain H, Noubakht R. Religion and Fertility. *Social Issues in Iran*. 2010; 1(1): 215-195. [Persian].
8. AbbasiShavazi MJ, Hosseini M. Evolution of Fertility, Family Planning and Population Policies in Iran. *Journal of Knowledge in Islamic University*. 2011; 15(3):8-25. [Persian]
9. Hosseini H, Abbasi Shavazi MJ. Change of thinking and its impact on behavior and idealsKurdish and Turkish women's fertility. *Journal of Women's Research*. 2009; 7(2):55-84. [Persian]
10. Mansourian MK. Explain the fertility transition. *Humanities and Social Sciences University of Shiraz*. 2001; 16(2):25-48. [Persian]
11. Hosseini H, Bagi B. Women's Autonomy and Fertility Ideals among Kurdish Women In the City of Mahabad. *Women in Development & Politic*. 2012; 10(4):54-78. [Persian]
12. AbbasiShavazi MJ, RazeghiNasrabad H. Patterns and Factors affecting between marriage and first birth in Iran. *Demography Society*. 2010; 5(9): 75-105. [Persian]
13. Keim S, Klärner A, Bernardi L. Qualifying Social Influence on Fertility Intentions: Composition, Structure and Meaning of Fertility-relevant Social Networks in Western Germany. *Current Sociology*. 2009; 57(6): 888-907.
14. Behrman J R, Kohler P, Watkins S. Social networks and changes in contraceptive use over time Evidence from longitudinal study in rural Kenya. *Demography*. 2002; 39(4): 713-738.
15. Khadivzadeh T, Latifnejad R, Bahrami M,

- Taghipour A, AbbasiShavazi MJ. Caring My Family Integrity: Couples' First Childbearing Experience in Urban Society of Mashhad, Iran. *Human Fertility*. 2014; In press.
16. Khadivzadeh T, Latifnejad R, Bahrami M, Taghipour A, AbbasiShavazi J. The influence of social network on couples' intention to have the first child. *Iran Journal Report Medicine*. 2013; 11 (3): 209-218.
  17. Bahrian AM, Saadat R, Shakeri N, Azizi F. Evaluate the impact of patient attitudes toward spirituality in the healing process. *Journal of Medical Ethics*. 2011; 4 (14): 148-131.
  18. Mazhar G, Haramaleki A, Mortazi A, Amirpour A. Legitimacy of necessitating of having child in Imamieh Jurisprudence. *Journal of Islamic Jurisprudence and Principles*. 2009; 1(1): 125-140. [Persian].
  19. Kiani R. Evaluation of the fertility of the Holy Quran. *Journal of Population*. 2007; (61-62): 91. [Persian]
  20. Encyclopaedia Islamica Foundation 2014; [1 screens] Availabel at: URL:<http://www.cgie.org.ir>. accessed 15 september, 2014 [Persian]
  21. Khadivzadeh T. The process of formation of reproductive behavior in urban society of Mashhad, Iran. [Dissertation PHD]. Mashhad University of Medical Sciences; 2014.
  22. Khadivzadeh T, Latifnejad R, Bahrami M. The influence of gender role and women's empowerment on couple's fertility experiences in urban society of Mashhad, Iran. 2014; 2(3): 170-179.
  23. Nouri A. Weakening of family strength. *Journal of Studies in Women and Families*. 2010; 3(6): 87-114. [Persian]
  24. Parvin S, Davoudi M, Mohammadi F. Demographic factors affecting the emotional divorce. *Strategic Studies Women*. 2013; 4(56): 119-153. [Persian]
  25. Every hour, 18 divorces in 92.2013; [1 screens] Availabel at: URL: <http://www.sabteahval.ir/Default.aspx?tabid=4773>. accessed, 2014 [Persian]
  26. Beyeza- Kashesy J, Neema S, Ekstrom AM, Kaharuza F, Mirembe F, et al. Not a boy, not a child: A qualitative study on young people's views on childbearing in Uganda. *African Journal of Reproductive Health*. 2010; 14(1):71-81.
  27. Sikandar R, Khwaja R, Shaikh F, Jatoi N. Fertility preferences among women of reproductive age in an under developed country. *Quarterly Medical Channel*. 2012; 18(1):66-70
  28. Sennott C, yeatman S. Stability and change in Fertility preferences Among young women in Malaw. *Intperspect Sex Reproductive Health*. 2012 ;38(1):34-42.
  29. Pradhan A, Pandey S. Fertility desire of working in Kathmandu. *Journal of Nepal Health Research Council*. 2010; 8(2):95-98.
  30. Moghaddas A, Vaezzade S. Afghan Migrants in Mashad/Iran Fertility, Family Planning & Social Factor. *International Population Conference*; 18-23 July 2005; Tours, France.
  31. Matsumoto Y, Yamabe S. Family size preference and factors affecting the fertility rate in Hyogo, Japan. *Reproductive Health*. 2013; 10:6.
  32. Yeatman SE, Trinitapoli J. Beyond denomination: The relationship between religion and family planning in rural Malawi. *Demographic Research*. 2008; 19(55):1851-1882.
  33. Borooah V, Iyer S. Religion and Fertility in India: The role of son preference and daughter aversion. University of Cambridge; 2004. Availabel at: URL: [ideas.repec.org/p/cam/camdae/0436](http://ideas.repec.org/p/cam/camdae/0436).
  34. Caldwell JC, Caldwell P. The cultural context of high fertility in sub-Saharan Africa. *Population and development review*. 1987;13(3):409-437.
  35. Abbasi-Shavazi MJ, Hosseini Chavoshi M, McDonald P, Delavar B. Fertility Transition in Iran. *Departement of Demography: University of Tehran*; 2005.
  36. Hashemian M, Mohammad Gul M. Experience report functionality comparative health and population indicators affecting the level of fertility in women 15 to 49 years old Sunnis and Shiites and its influencing factors in the Razavi Khorasan province in 2013. Available: [journals.nkums.ac.ir/index.php/ICBPHC](http://journals.nkums.ac.ir/index.php/ICBPHC)
  37. Khodayarifard M, Shokouhi Yekta M, Ghobari Bonab B. Preparing a scale to measure religious attitudes of college students. *Journal of Psychology*. 2000; 4(15):268-285.
  38. Khadivzadeh T. Desigining and psychometric measures of a tool to predict fertility behavior in urban societies. The research project approved by the Mashhad University of Medical Sciences. 2014; In press.
  39. Langdridd D, Sheeran P, Connolly K. Understanding the reasons for parenthood. *Journal of Reproductive and Infant Psychology*. 2005; 23 (2):121-133.
  40. Frejka T, Westoff CF. Religion, religiousness and fertility in the US and in Europe. *European Journal of Population/Revue Européenne de Démographie*. 2008; 24(1):5-31.
  41. Soroush M, Bohrani SH. The relationship between religiosity, attitudes toward gender roles and attitudes actual and ideal number of children. *Women in Development & Politics*. 2013; (2): 209. [Persian]
  42. Rijkkin AJ, Liebroer AC. The Influence of Partner Relationship Quality on Fertility. *European*

- Journal Population 2009;25(1): 27–44.
43. Khadivzadeh T, Arghavani E. Relationship on fertility motivation and fertility preference in couples referred to premarital counseling clinic of health centers in Mashhad 1392. In print on Iranian Journal obstetric Gynecology Infertility Mashhad University Medical Sciences. 2014; In press.
  44. Khadivzadeh T, Latifnejad Roudsari R. A qualitative approach to understand the motivators of reproduction in couples of reproductive age. The 13<sup>th</sup> Royan International Congress on Reproductive Biomedicine; 5-7 September, Tehran, Iran; 2012.
  45. Khadivzadeh T, Latifnejad R, Bahrami M, Taghipour A, Abbasi Shavazi J. The influence of social network on couples' intention to have the first child. *Iran Journal Reproductive Medicine*. 2013; 11:(3):209-218.
  46. Khadivzadeh T, Latifnejad R, Bahrami M. The influence of mass media on couple's fertility intention, a qualitative explanatory approach. National Conference of Women Health; 21 February 2014; Isfahan University of Medical Sciences.
  47. Adsera A. An economic analysis of the gap between desired and actual fertility: The case of Spain. *Review of Economics of the Household*. 2006; 4: 75–95.
  48. Khadivzadeh T, Arghavani E. The relationship between social network performance and fertility preferences in couples referring to premarital clinics of health centers in Mashhad in 2013. 2014; [1screen] Available at: URL: [www.seminars.mui.ac.ir/wh](http://www.seminars.mui.ac.ir/wh). Accessed February 21, 2014.