Predictors of Permanent Childlessness in Iranian Women (Using the 2016 National Census Microdata Sample)

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Abstract

Background: Dramatic changes in the demographic behaviors of Iranian women have led to declining fertility after the mid-1980s. Childlessness is an important and growing issue and has increasingly become the focus of the problem by Iranian population policymakers.

Methods: The present study was conducted using the quantitative secondary data analysis method. Using the census microdata of population and housing in 2016, the researchers attempted to investigate the level and predictors of childlessness among married women aged 40–49. The data of 85799 married women aged 40–49 was analyzed.

Results: About 4% of the sample were childless. Logistic regression analysis indicated that the probability of childlessness for married women with university degrees, immigrant women, and employed women is higher than their counterparts. Furthermore, the findings suggested that women who live in apartments and those who live in private houses are less likely childless than their counterparts. Bigger houses lower the probability of being childless.

Conclusion: Government planning and policymaking to reducethe proportion of childlessness should improve household circumstances, especially their housing.

Introduction

One key dimension of fertility changes during the century is the change in the proportion of childless women,[1] in most countries globally. Some studies,[2-4] have mentioned that the prevalence of childlessness has increased enormously in many countries. Childlessness is governed both by attitudes as well as demographic determinants. Although individuals with specific socioeconomic characteristics may prefer to remain childless, their reasons for such behavior go beyond basic individual demographic variables.[5] It occurs due to an interplay between factors associated with household and personal socioeconomic correlates. Attitudes towards childlessness have varied both between cultures and over time. Women who purposely remained childless were commonly viewed as selfish and socially irresponsible.[6]

Generally, childlessness can be considered a result of infertility, voluntary childlessness, circumstantial childlessness, or delayed childbearing, also known as temporary childlessness.[7] An important issue in defining childlessness is that people's perceptions of childlessness as a choice or circumstance are complex, subjective, and multidimensional.[8] There are two major theoretical categories to explain causes of fertility change. The first is generally known as the "demographic transition theory", which emphasizes structural or socioeconomic conditions. Meanwhile, an alternative perspective is an ideational theory, which emphasizes cultural variables. Based on this theory

and empirical evidence, a socioeconomic theory of fertility is best framed in terms of both structural and individual factors.[9] The educational attainment of women has a significant effect on childlessness.[1, 6, 10]

A study in Moscow indicated that childlessness intentions are prevalent among well-educated individuals.[7] Higher educational attainment is associated with a greater acceptance of childlessness among European women.[11-13] Hayford (2013) has shown that the rising proportion of women with a college degree explains a substantial increase in childless women in the United States.[14] A study in the Australian context[15] suggested that women with tertiary education and those who work in prestigious occupations have the highest childlessness rates. Gobbi (2011) showed that more labor market opportunities for mothers can be the origin of the fluctuations both in childlessness and in average fertility in the United States.[16] Research in Italy found that the great recession contributed to childlessness as educated women slightly postponed first births during the crisis.[17] Kneale & Joshi (2008) estimated that about a quarter of 1970-born British graduate women would remain childless.

Furthermore, they found out that the most striking childbearing postponement occurred among graduate men and women.[18] Another study in the United States,[19] indicated that 2.5 percent of women were childless because of poverty and 8.1 percent because of the high cost of child-rearing. Based on previous studies,[20-22] special attention should be paid to education, place of residence, employment status, and geographic mobility as factors correlated to childlessness. There is no evident relationship between women's employment status and childlessness in Spain.[23] The result of a study,[24] showed that whatever the age increases, childlessness decreases markedly. Similar results were obtained in a Canadian context.[25] Pals and Waren (2013) showed that higher education and economic independence were the primary motivations for U.S. Women's childlessness.[26]

In recent decades, women's fertility behavior in Iran received considerable demographic attention. Significant changes in the demographic behaviors of Iranian women have led to declining fertility and increasing childlessness. The changing fertility rate and its reasons have been widely discussed in the demographic literature on Iran. Studies on Iranian women's fertility showed that fertility is declined after mid-1985s.[27-33] Therefore, the Iranian supreme leader outlined general population policies with an emphasis on childbearing and achieving fertility levels higher than replacement levels in 2014. Although the fertility model transformation has gained ample attention in Iranian demographic studies, the phenomenon of childlessness has been largely ignored. For these reasons alone, the continued investigation of fertility trends in Iran and their various parity outcomes is

warranted. In this study, we focus on Iran, where childlessness is a recent phenomenon characterized by a remarkable fertility decline. Childlessness also severely hit by the economic downturn due to the sanctions over recent decades. Despite the lower fertility, the cultural expectation of bearing children has remained strong in Iranian society, and motherhood is central to feminine identity. On the other hand, the norms and social pressure continue to support childbearing, and, in contrast, childlessness is not culturally acceptable behavior. Childlessness among Iranian women has not been studied using variables related to household circumstances. Generally, research on childlessness and its determinants is relatively scant in Iran. This paper assesses the prevalence and predictors of childlessness among married women aged 40-49.

Methods

The research method is secondary data analysis. The authors used microdata from the 2016 census of

Table 1: Distribution of the Sample by Individual and Household Characteristics

Variables	N (%)
Age Groups (Year)	
40-44	45769 (53.3)
45-49	40030 (46.7)
Place of Residence	
Urban	65935 (76.8)
Rural	19864 (23.2)
Migration Status	
Nonimmigrant	82677 (96.4)
Immigrant	3122 (3.6)
Education Status	
Illiterate	13809 (16.1)
Primary	26657 (31.1)
Secondary	13595 (15.8)
High school/Diploma	19810 (23.1)
University degree	11928 (13.9)
Employment Status	
Employed	11075 (12.9)
Housewife	74724 (87.1)
Current Status of Study	
Student	1165 (1.4)
Non-Student	84634 (98.6)
Childless	
No	82074 (95.7)
Yes	3725 (4.3)
The Type of Residence Place	
Apartment	31256 (36.4)
Non- Apartment	54543 (63.6)
The Type of Place Ownership	
Personal	60414 (70.4)
Rented	20030 (23.3)
Other	5355 (6.2)
Household Count in the Place	
A household	82701 (96.4)
Two households and more	3098 (3.6)

Table 2: Distribution of Childlessness among the Sample by Individual and Household Characteristics

Variables	Childless (%)		N	χ^2
	Yes	**No**		
Education Status				85.800*
Illiterate	5.3	94.7	13809	
Primary	4.2	95.8	26657	
Secondary	3.4	96.6	13595	
High school/Diploma	4.0	96.0	19810	
University Degree	5.2	94.8	11928	
Age Groups				7.202*
40-44	4.5	95.5	45769	
45-49	4.1	95.9	40030	
Migration Status				39733.071*
Non-Immigrant	4.3	95.7	82677	
Immigrant	6.6	93.4	3122	
Employment Status				30.855*
Employed	5.3	94.7	11075	
Housewife	4.2	95.8	74724	
Place of Residence				3.725
Urban	4.3	95.7	65935	
Rural	4.6	95.4	19864	
Current Status of Study				3.77
Student	5.5	94.5	1165	
Non-Student	4.3	95.7	84634	
The Type of Residence Place				0.757
Apartment	4.3	95.7	31256	
Non-Apartment	4.4	95.6	54543	
The Type of Place Ownership				96.974*
Personal	3.9	96.1	60414	
Rented	5.2	94.8	20030	
Other	5.9	94.1	5355	
Household Count in the Place				0.163
A household	4.3	95.7	82701	
Two households and more	4.2	95.8	3098	

*Significant (Level of 0.05)

population and housing. In general, the Iranian statistical center provides access to 2% of the 2016 census microdata. The household questionnaire collects data on the characteristics of the household. The census household characteristics questionnaire collected data from 483385 homes, and the individual characteristics questionnaire collected data from 1579435 persons. The above two datasets can be combined by the Household ID field. Given the results of the 2016 census, the statistical population comprises 16082956 married women aged 40-49, from which 85799 women were examined. It should be noted that the data were first checked, and the missing data were deleted from the dataset. Childlessness is the dependent variable, and age, place of residence, educational status, employment status, migration status, and current status of study are the independent variables associated with the women's characteristics. Age is an interval variable. Place of residence, employment status, the current status of the study, and migration status are nominal variables with the categories of urban/rural, employed/housewife, student/non-student, and immigrant/non-immigrant, respectively. Also, the type of residence, the type of residence ownership, and the number of household living in a house are the factors related to the women's household circumstances. To analyze the data, we use the chi-square test as well as the logistic regression model in SPSS.

Results

Table 1 summarizes the individual characteristics of the sample. About 4% of married women are childless, and 53% of them are 40–44 years old, while the rest are 45–49 years old. About 23% of women live in rural areas, while the rest live in urban areas. Also, about 16% of the sample is illiterate, and the rest are literate. About 31% of married women have primary education, 16% have secondary education, 23% have a high school education, and the others have a university degree. About 13% of the studied women are employed. Immigrants make up about 4% of the sample.1.4% of women are currently studying. About 36% of the household women live in apartments, and about 70% of the sample have a personal house. About 3.6% of the studied women live in homes with two or more household.

Table 2 presents the results of the chi-square statistic as a two-variable test. We used the chi-square test to analyze the relationship between

Table 3: Prediction of Childlessness among the Sample Using Logistic Regression Model

Variable	B	Odds Ratio
Age	-0.012	0.988*
Education Status		
Illiterate	0.039	1.040
Primary	-0.203	0.816*
Secondary	-0.393	0.675*
High school/Diploma	-0.236	0.790*
University Degree (Ref.)		
Migration Status		
Immigrant	0.377	1.458*
Non-Immigrant (Ref.)		
Employment Status		
Housewife	-0.189	0.828*
Employed (Ref.)		
Place of Residence		
Rural	0.063	1.065
Urban (Ref.)		
Current Status of Study		
Non-Student	-0.139	0.870
Student (Ref.)		
The Type of Residence Place		
Non-Apartment	0.099	1.104*
Apartment (Ref.)		
The Type of Place Ownership		
Personal	-0.408	0.665*
Rented	-0.117	0.889
Other (Ref.)		
Household Count in the Place	-0.043	0.958
Area of the House	-0.002	0.998*

*Significant (Level of 0.05)

the independent variables and childlessness. The findings show that high educational levels increase the proportion of childless women remarkably. Immigrant and employed women are more likely to be childless than non-immigrant or housewife women. Those women whose households have a personal housing experience have a lower chance of childlessness than their counterparts in rented or other housing.

Table 3 shows the results of the logistic regression analysis. Childlessness is a categorical variable with two categories (0. having a child and 1. childless). Findings illustrate that whatever age increases, the probability of childlessness decreases. The probability of childlessness for women with university degrees is higher than for other women with non-academic education. Childlessness among immigrant women is more likely than non-immigrant women. The probability of childlessness among employed women is higher than homemakers. Women who live in apartments are less likely to be childless than women in non-apartment housing. The odds of being childless for women living in personal housing are less likely than for women living in other types of housing. Findings also point out that whatever the surface area of a house increases, the probability of being childless decreases.

Discussion

Iran has experienced a dramatic change in fertility rates over the last three decades. Today, the current and future status of childlessness is one of the most important concerns about Iran's population. Women's fertility declined from the mid-1985s onwards. The latest Iranian census of population and housing was conducted in 2016, and suggested that the fertility level in the country is still lower than the replacement level. Decreasing fertility from about seven births per woman to about two during the 1985–2016 has raised concerns about the future of Iran's population. Hence, in recent years, the government of Iran has been planning to adopt a pronatalist policy to increase fertility. Also, the supreme leader of Iran outlined general population policies emphasizing childbearing and achieving fertility levels higher than replacement levels. This study focused on one key dimension of fertility change, titled "childlessness." The information was derived from microdata from the 2016 census of population and housing. The statistical population consists of all married women aged 40–49. The results indicated that current status of the study, and household count in the place have a statistically significant relationship with the childlessness. Whatever age increases, the probability of childlessness decreases for Iranian women. Similar results were obtained in other

contexts.[24, 25] The findings pointed out that education is one key factor related to fertility behavior among women. The above result is consistent with previous findings.[1, 6, 7, 10, 11, 14] Childlessness is generally more prevalent among migrant and employed women and women who are currently studying. Each of the above-mentioned findings is consistent with the results of previous research.[20-22] Although there is considerable literature on childlessness in the world, this study considered women's characteristics and their household circumstances. The above point is a distinctive aspect of this study compared to previous literature. Women who live in non-apartment housing are more likely to be childless than those in apartment housing. The odds of being childless for the women living in personal housing were less likely than their counterparts. Findings also suggested that higher surface area of a house reduces the likelihood of being childless. As one aspect of modernization, social modernization variables (education and employment status),[34] appear to be relatively more important in the prediction of being childless than household circumstances.

Conclusion

More university education and higher employment rates for Iranian women could increase the probability of childlessness. Proper housing policies would be helpful to reduce childlessness among women. Thus, national housing policies concentrating on affordable housing supply may reduce the proportion of childless people in Iran. As a result, changes in the housing market and women's social status explain Iran's considerable amount of childlessness status. But planning and policymaking to reduce childlessness should focus on women's household conditions. Since some of the current childlessness is probably involuntary, identifying involuntary childless women and treating their infertility can undoubtedly reduce the current childlessness ratio.

Conflicts of interest*:* None declared.

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