ORIGINAL ARTICLE

Exploring Gender Preference, Marriage Age, and Family Size Aspirations among Prospective Spouses in Jahrom, Southern Iran

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Abstract

Background: Iran has witnessed a significant and rapid decline in fertility rates over the past few decades, a phenomenon referred to as the reproductive revolution. One crucial factor influencing fertility rates is the preference for a child's gender, which can impact family size. This study aimed to determine the gender preference and desired family size among marriage candidates in Southern Iran in 2021.

Methods: This cross-sectional study involved 744 marriage candidates from Jahrom County, Fars province, Iran, selected through convenience sampling. Data were collected using a researcher-developed questionnaire. Experts confirmed the questionnaire's face validity and its reliability was established with a Cronbach's alpha of 0.81.

Results: Of the participants, 54.6% were women, 86.8% resided in urban areas, and 60.6% had a diploma or lower educational level. The mean age at first marriage was 26.86±8.22 years, and the mean desired number of children was 2.09±1.10. The preference for a boy as the first child was 24.6% among men and 22.9% among women, while the preference for a girl was 17.4% among men and 24.1% among women (P=0.084). Furthermore, 46.4% of men and 47.8% of women believed they would continue having children if they did not have a son (P=0.72). Factors such as gender, age, education, occupation, monthly income, and place of residence showed no association with the preference for a boy as the first child (P>0.05).

Conclusion: On average, marriage candidates desired two children. There was a slight preference for boys. It is recommended that adolescents and young adults receive appropriate education about gender equality in schools and universities to mitigate gender bias and discrimination at the community level.

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Introduction

In recent decades, global attention to gender equality has increased due to human rights considerations and as part of economic development.[1, 2] Children's gender preferences, which often favor and invest more in boys, have become a factor threatening girls' health, well-being, and rights.[3, 4] Declining fertility, coupled with new sex determination and selection technologies, has disrupted the sex ratio at birth. This issue has prompted several countries to reform laws to ban prenatal sex selection and strengthen public education to reduce

biases favoring the male gender.[5]

Gender discrimination can lead to demographic changes in society, which will have significant effects on all aspects of individuals' and communities' lives. Many factors, such as biological differences, mass media, education and training, stereotyped beliefs, social norms and laws, and social institutions, can affect gender experiences. Gender preference for children is a reality in many developing countries.[6, 7] Such societies experience higher fertility rates as a result of parents' increased efforts to achieve their reproductive goals.[8] A preference for boys is common in Asian nations and is influenced by social, economic, and cultural aspects.[9]

Like many developing countries, the lifestyle of the Iranian people has undergone fundamental changes in recent decades. These changes have led to a significant increase in the age of marriage, the desire of women to continue their education, and a decrease in the fertility rate. Iran's total fertility rate (TFR) has significantly decreased over the past few decades, dropping from 6.5 in 1986 to 1.71 in 2020.[10, 11] The natural growth rate of Iran's population was 3.1% between 1980-1985, which decreased to 1.34% in 2010-2015. The natural growth rate of Iran's population is expected to reach almost zero percent in 2045-2050 and fall below zero after that.[12]

One of the significant consequences of gender inequality is the gender preference of children at birth. Families often prefer their child to be a girl or a boy when a child is born, which can cause an increase or decrease in the number of children in the family. As soon as possible, the family will adjust to the composition of the family. If they are concerned about the gender of their children, the likelihood of them having their next child will decline. This finding can negatively affect the community over time and alter the sexual structure of society by increasing the ratio of males to females or vice versa.[6, 8] A study in India showed that parents tend to have more children because of the strong preference for boys in this country if the first child in the family is a girl.[6] The increase in fertility is because parents have to have more births to ensure that they have male children.[13]

On the other hand, the ideal family size varies across societies. Surveys show that the average ideal family size is one or two children in developed countries, two to three children in some Asian countries, and four to five children in other Asian countries.[14-17] In some African countries, no one wants fewer than four children.[18, 19]

The results of this study contribute to the discourse on fertility in Southern Iran by examining factors affecting women's ideal family size. Furthermore, the study highlights changing values about childbearing and the transition in fertility preferences in Jahrom District. Bongaarts argues that a persistently high fertility preference is a strong factor that will keep the Total Fertility Rate (TFR) at a high level for some years to come, even when the unmet need for contraceptives in the region is largely met.[18]

Ideal family size, as an indicator of family size preference, has two potential sources of bias – ex-post rationalization and nonresponse. Despite these biases, its interpretation is straightforward, so it is still widely used as a standard indicator of lifetime fertility goals.[18, 20] Therefore, the present study was conducted to determine the family size and gender preference of children among marriage applicants in Jahrom County in 2021.

Methods

Study Design

This cross-sectional-descriptive study was conducted on marriage candidates referred to Ghafouri Medical Diagnostic Laboratory in Jahrom City, Fars province, in southern Iran, in 2021.

The sample size was calculated based on the sample size formula for cross-sectional studies and the Jafari study,[21] considering P=0.38, a 95% confidence interval, a margin of error of 0.038, and the number of 630 marriage candidates.

The inclusion criteria consist of all marriage applicants who visited Ghafouri Medical Diagnostic Laboratory for the first time in 2021. The exclusion criteria encompassed unwillingness to participate in the study and failure to complete the questionnaires.

The sampling method was convenience sampling. One of the personnel of Ghafouri Medical Diagnostic Laboratory received the necessary training on the study's objectives and then provided individuals who wanted to participate with a questionnaire to complete (self-reported) after obtaining informed consent. This process was done on weekdays from Saturday to Wednesday from 8:00 AM to 12:00 PM before the start of the training classes for the candidates. The questionnaire administrator was present at the research site and provided advice and counsel following the training they had received if there were any issues or ambiguities regarding the questionnaire's questions. Other marriage candidates replaced applicants who refused to or only partially completed the questionnaire.

Data Collection

The data collection instrument was a researcher-made questionnaire consisting of two parts. The first part was related to demographic variables (age, gender, place of residence, place of birth, education, birth rank, monthly income, occupation), and the second part contained questions related to gender preference.

The second part of the questionnaire had 18 questions. Some questions had a yes or no answer, such as "Do you want to have at least one male child?" and "Do you want to have at least one female child?" The answer to some questions was one or more numbers, such as "How many girls and boys do you want to have?" Some questions examined people's specific tendencies, such as "What would you do if there is no boy among your children?" and "What gender would your parents prefer for your children?"

The following steps were taken to standardize the questionnaire: First, the questionnaire was given to 30 marriage candidates to evaluate face validity. Items such as difficulty level and comprehension of words and phrases were evaluated. Second, to ascertain the questionnaire's content validity, it was provided to ten experts in health education and instrument design. They were requested to review it regarding item placement, grammatical standards, and any required corrections. The Content Validity Ratio (CVR) and Content Validity Index (CVI) were calculated. The CVR and CVI values of the questionnaire were 0.72 and 0.88, respectively, confirming the questionnaire's validity. Third, to determine reliability, the Cronbach's alpha value was calculated and found to be 0.81, confirming the questionnaire's reliability.

Statistical Analysis

The collected data were entered into SPSS software version 21. After checking for normality with the Kolmogorov-Smirnov test, they were analyzed using descriptive statistics, independent t-test, Mann-Whitney, and Chi-square tests. Moreover, the univariate logistic regression model was used to investigate the factors affecting the preference for a male child during the first pregnancy. A significance level of 0.05 was considered.

Result

During the study period, 1224 individuals were visited, and 1091 met the inclusion criteria. Seven hundred forty-four marriage applicants were evaluated (68.19% participation rate). Of these, 54.6% were women. The mean age at marriage was 26.86±8.22 years; most lived in the city (86.8%) and were born there (75.8%). The majority had a diploma or lower level of education (60.6%). Approximately half of the marriage applicants (45.1%) were employed. About 67.7% felt their income was average and sufficient for their family's expenses. Half were the family's third and older children (49.9%) (Table 1).

The mean number of children desired was 2.09±1.10 (2.17±1.12 in men and 2.01±1.05 in women, P=0.03). Therefore, there was a significant difference between women and men regarding the number of male children desired (P=0.033). However, there was

Table 1: Frequency distribution of the demographic characteristics of participants

Variable	Grouping	Total (n=744)	Sex		P value
			Male (n=338)	Female (n=406)	
Age (yr), mean (SD)	-	26.86±8.22	27.15±7.33	26.51±7.08	0.239[a]
Place of residence, frequency (percent)	Urban	646 (86.8)	291 (86.1)	355 (87.1)	0.369[b]
	Rural	98 (13.2)	47 (13.9)	51 (12.6)	
Place of birth, frequency (percent)	Urban	564 (75.8)	251 (74.3)	313 (77.1)	0.598[b]
	Rural	180 (24.2)	87 (25.7)	93 (22.9)	
Education, frequency (percent)	Elementary	26 (3.5)	13 (3.8)	11 (2.7)	0.264[b]
	High school	134 (18)	69 (20.4)	65 (16)	
	Diploma	291 (39.1)	132 (39.1)	159 (39.2)	
	Associate degree	48 (6.5)	19 (5.6)	29 (7.1)	
	Bachelor's degree	190 (25.5)	87 (25.7)	103 (25.4)	
	Master's degree and higher	55 (7.4)	18 (5.3)	37 (9.1)	
Occupation, frequency (percent)	No job	274 (36.8)	91 (26.9)	183 (45.1)	<0.001[b]
	Government employee	71 (9.5)	21 (6.2)	50 (12.3)	
	Non-government employee	265 (35.6)	176 (52.1)	89 (21.9)	
	Other	134 (18)	50 (14.8)	84 (20.7)	
Sufficient family income, frequency (percent)	Very low	109 (14.7)	47 (13.9)	62 (15.3)	0.199[b]
	Low	75 (10.1)	39 (11.5)	36 (8.9)	
	Medium	504 (67.7)	233 (68.9)	271 (66.7)	
	Much	56 (7.5)	19 (5.6)	37 (9.1)	
Sufficient monthly income of the paternal family, frequency (percent)	Very low	53 (7.1)	21 (6.2)	32 (7.9)	0.637[b]
	Low	76 (10.2)	34 (10.1)	42 (10.3)	
	Medium	528 (71)	247 (73.1)	281 (69.2)	
	Much	87 (11.7)	36 (10.7)	51 (12.6)	
Birth rank, frequency (percent)	First	232 (31.2)	109 (32.2)	123 (30.3)	0.788[b]
	Second	141 (19)	65 (19.2)	76 (18.7)	
	Third and above	371 (49.9)	164 (48.5)	207 (51)	

"- "Not applicable; SD: Standard Deviation; [a]Independent t-test; [b]Chi-squared test; Significance level<0.05)

no discernible difference in the desired number of female offspring between men and women (P=0.11). Men reported having a preference for boys over girls in their first pregnancies 24.6% of the time, while women reported having a preference for boys over girls in their first pregnancies 22.9% of the time and 24.1% of the time. However, there was no significant difference between men and women regarding the frequency of gender preference in the first pregnancy (P=0.084) (Table 2).

The desired number of children varied from 0 to 6, and the number of two desired children was more frequent in men (59.2%) than in women (61.1%) (Figure 1).

Univariate logistic regression was used to determine the factors (gender, age, education, occupation, monthly income, residence of the applicant) that influence the preference for a male child in the first pregnancy. The results showed that the effect of these accompanying factors on the preference for a male child in the first pregnancy is not significant (P>0.05) (Table 3).

The results showed that 46.4% of men and 47.8% of women believed that if the gender of at least one of their children is not a boy, they will continue having children (P=0.72). Furthermore, the results showed that there was a significant difference between women and men due to the gender preference of the first child (P=0.001), preference for more boys or girls (P=0.04), and the desire to have the opposite gender in the individual (P=0.001). Thus, the gender preference of the first child for men was a boy (63.5%), and the gender preference of the first child for women was a girl (64%). Most men and women desired an equal number of boys and girls, or it did not make any difference. 13.8% of women wished their gender was the opposite of their current gender, while this amount was 2.8% for men (Table 4).

Discussion

This study revealed that the average age of marriage and the number of children desired by marriage volunteers were 26 years and two, respectively. Furthermore, there was a gender preference favoring boys, with couples tending to continue pregnancy and childbearing until they achieved their desired gender balance among their children.

Table 2: The mean number of desired children and the frequency of sexual preference in the first pregnancy

Variable		Gender		P value
		Male	Female	
Desired children M±SD	Desired number of children	2.17±1.12	2.01±1.05	0.03*
	Boy	1.14±0.73	1.04±0.71	0.03*
	Girl	1.05±0.62	0.99±0.65	0.11*
Sexual preference N (%)	Boy	83 (24.6)	93 (22.9)	0.08**
	Girl	59 (17.4)	98 (24.1)	
	No preference	196 (58)	215 (53)	

*Mann-Whitney U test; **Chi-square test; M: Mean; SD: Standard deviation; N: Number; Significance level<0.05.

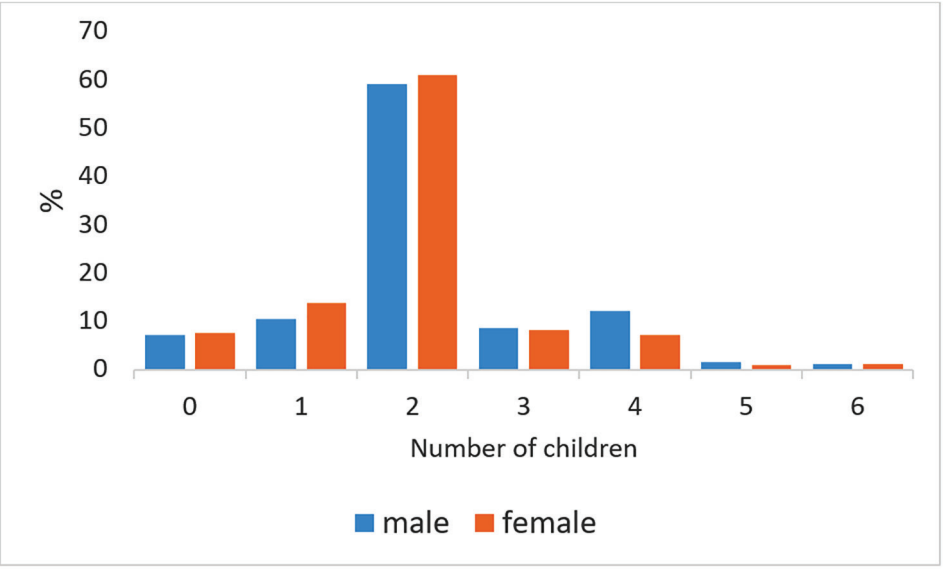

Figure 1: Frequency of the desired number of children in men and women participating in the study. Source: This figure was designed by the authors based on the data collected during the study.

Table 3: Determining the factors associated with the preference for a male child in the first pregnancy

Variable		Sexual preference		P value*	OR	95% confidence interval	
		Non-boy N (%)	Boy N (%)			Lower	Upper
Gender	Male	255 (75.4)	83 (24.6)	Ref	-	-	-
	Female	313 (77.1)	93 (22.9)	0.33	1.3	0.77	2.19
Age (year)	Under 20	84 (79.2)	22 (20.8)	0.89	0.94	0.38	2.32
	20-25	168 (74)	59 (26)	0.67	1.16	0.58	2.3
	26-30	126 (77.3)	37 (22.7)	0.76	0.89	0.44	1.81
	31-35	100 (77.5)	29 (22.5)	0.89	0.95	0.46	1.97
	Over 35	58 (77.3)	17 (22.7)	Ref	-	-	-
Place of residence	Urban	425 (75.4)	139 (24.6)	Ref	-	-	-
	Rural	143 (79.4)	37 (20.6)	0.51	0.85	0.52	1.38
Education	Elementary	17 (70.8)	7 (29.2)	0.15	0.29	0.05	1.54
	High school	105 (78.4)	29 (21.6)	0.45	0.72	0.3	1.72
	Diploma	236 (81.1)	55 (18.9)	0.12	0.54	0.25	1.17
	Associate degree	33 (68.8)	15 (31.3)	0.93	1.04	0.4	2.72
	Bachelor's degree	136 (71.6)	54 (28.4)	0.73	0.88	0.41	1.86
	Master's degree and higher	39 (70.9)	16 (29.1)	Ref	-	-	-
Occupation	Jobless and housewife	233 (75.4)	76 (24.6)	0.95	0.98	0.54	1.8
	Employee	53 (74.6)	18 (25.4)	0.29	0.67	0.31	1.41
	Freelance job	163 (78.4)	45 (21.6)	0.29	0.74	0.43	1.28
	Other	100 (74.6)	34 (25.4)	Ref	-	-	-
Sufficient family income	Very low	81 (74.3)	28 (25.7)	0.33	1.56	0.64	3.82
	Low	53 (70.7)	22 (29.3)	0.43	1.42	0.59	3.45
	Medium	337 (77.5)	98 (22.5)	0.75	1.13	0.54	2.34
	Much	45 (80.4)	11 (19.6)	Ref	-	-	-

OR: Odds Ratio; "- "Not applicable, Ref: Reference group; *Univariate logistic regression; Significance level<0.05.

Table 4: Participant's tendencies regarding the gender of children

Variable		Gender		P value*
		Male n (%)	Female n (%)	
What do you do if there is no boy among your children?	The same number of children is sufficient	97 (53.6)	117 (52.2)	0.72
	I will continue to have children	84 (46.4)	107 (47.8)	
What do you do if there is no girl among your children?	The same number of children is sufficient	16 (53.3)	15 (50)	0.28
	I will continue to have children	14 (46.7)	15 (50)	
What gender would you prefer for your first child?	Boy	205 (63.5)	137 (35.5)	0.001
	Girl	117 (36.2)	247 (64)	
	No preference	1 (0.3)	2 (0.5)	
What gender would you prefer most of your children to be?	Boy	47 (14.4)	50 (12.7)	0.04
	Girl	28 (8.6)	59 (15)	
	Equal number	129 (39.6)	132 (33.6)	
	No preference	122 (37.4)	152 (38.7)	
What gender would your parents prefer for you to have children?	Boy	33 (10.1)	28 (7.1)	0.1
	Girl	13 (4)	27 (6.9)	
	No preference	280 (85.9)	338 (86)	
Have you ever wished you were the opposite gender?	Yes	9 (2.8)	54 (13.8)	0.001
	No	318 (97.2)	337 (86.2)	
The interval between the births of each child	Less than two years	68 (21.1)	65 (17)	0.14
	Between 2 and 5 years	226 (70.2)	270 (70.5)	
	Six years and more	28 (8.7)	48 (12.5)	

*Chi-square test; Significance level<0.05.

These findings align with Bhaskar's study on Indian society,[22] although Arnold's research yielded contradictory results in many world regions.[23] In foreign cultures, women and men often have different perspectives on childbearing and the number of children. The desired number of children is often fewer, and gender preference is less pronounced in more developed countries. Having a male child is seen as a cultural imperative in many traditional communities, especially from the paternal side. This study's findings showed that men are more inclined to have a male child in their wife's first pregnancy, while women are more inclined to have a female child. This finding contradicts Marleau's study, which found that

women prefer male children.[24] It also contradicts the results of Mussino et al.'s study, which showed that women of Chinese, Korean, and Indian descent were more inclined to have sons.[25] As noted, in developing countries, parents' gender preference is higher, and parents are more willing to have male children. One reason could be these societies' economic challenges and the need for families to have male children as an active workforce.[26, 27]

Additionally, factors such as age, sex, education, occupation, monthly income, and the couple's place of residence had no impact on the sexual orientation in the first pregnancy and the preference for a male child. A study on couples on the verge of marriage in Iran showed that gender is significantly associated with the desire to have children and the desired number of children.[28] The desire to have children is stronger among men. People with more siblings tend to have more children. Place of residence did not correlate with the desire to have children. Education and Internet use dramatically negatively affect the desire to have children and the desired number of children. The desire to have children was strongly correlated with the wife's income. According to the results, men preferred the first child to be a boy, but for women, there was no preference for the first child's gender. Also, 46.7% of men and 50% of women stated they would continue having children if at least one of the desired children were not a boy or girl. Men and women shared this view, indicating that couples prefer to have both a girl and a boy. The reason for this phenomenon can be found in the attitudes of men and women towards the ideal family, which includes both a girl and a boy. Other studies' results also show that families with children of both genders are more satisfied with their children's gender composition.

Yaghoob and Ashkaran, in their study on demographic and socio-cultural gender preference in Iran, reported that the highest proportion of gender preferences is related to those who prefer an equal number of male and female children. Moreover, the proportion of those who prefer a male child is higher than those who prefer a female child.[29] Also, the results of Shahidi's and Ardestani's study on parents' preferences regarding their children's gender showed that Iranian parents primarily prefer to have children of both genders. Thus, at the secondary level, having a boy is preferable to having a girl.[30] These findings demonstrate how gender choice affects a society's total fertility rate, which is why many couples continue to conceive and raise children until they achieve their desired gender composition. Consequently, family size increases. This issue is mostly observed in countries with traditional cultures, including Iran, where the desire to have children of a specific gender can become a factor in having more children.

Other findings of this study indicated that the average number of children desired was two, with 59% of men and 61% of women expressing a desire to have two children. One of the significant issues that many countries, including Iran, face today is a decrease in fertility, which can be attributed to several factors. One such factor is gender equality in individual-oriented institutions and women's employment outside the home, which complicates the conditions for childbearing. Therefore, it cannot be expected that women will have more children without the necessary conditions. This issue implies that by creating suitable conditions, women can easily succeed in various career fields while fulfilling motherhood and family duties.

Majbour, study, demonstrated that despite the significant increase in women's education level and the rapid decline in their fertility rate in Iran, women's participation in the labor force (FLFP) remains low. This finding suggests that having an additional (unplanned) child does not directly impact higher maternal engagement rates and only lowers female participation rates for mothers with low education levels and mothers of small children. This result explains why the rapid decline in fertility rates did not increase female participation. Instead, other factors must be involved.[31]

Ntoimo, in a 2022 study on 13,673 women aged 15–49 years in Nigeria, showed that over one-quarter had an ideal family size (IFS) of four children, and 11% had a family size of 0–3. IFS above five was significantly associated with rural women, Muslims, uneducated women, women in agriculture, sales/service occupations, those involved in one or two out of four household decisions, justified spouse beating, having 5+ siblings, child death, and marriage before age 20.[32]

Muhoza et al., in a study on women in East Africa, showed that more than 50% of women with five or more children prefer to stop childbearing at four or fewer.[19]

Other results of this study showed that the average age of marriage for men was 27.15 years, and for women, it was 26.51 years, with an overall average of 26.86 years. Fathi, in a study of marriage trends based on the results of population and housing censuses, reported that the average age of marriage for men and women in the years 1956, 1976, 1996, 2006, and 2011 was 24.9 and 19 years, 24.1 and 19.7 years, 25.6 and 22.4 years, 26.2 and 23.3 years, and 26.7 and 23.4 years, respectively. The average age of first marriage for men and women in the province of Ilam is 28.9 years for males and 26.3 years for women, placing it at the top among all the areas in the country. The average age of marriage for men and women in Fars province was reported to be 27.6 and 24 years, respectively.[33] Moradi and Safarian, in their study in Kermanshah

province in 2012, stated that the average marriage age is 27.74 years.[34] The evidence indicates that the age pattern of marriage, especially for women, has changed significantly during the last half-century. Gradually, over time, the average age of marriage for men and women has become closer to each other, and the intensity of its convergence has decreased. The increase in the age of marriage for women and the slower trend of the rise in the age of marriage for men has led to a decrease in the age difference among couples at the time of their first marriage. Perhaps one of the main reasons for this decrease is the increase in women's education level, their inclination to work outside the home, and the improvement of their socio-economic base.

One of the weaknesses of this study was that the participants were not randomly chosen for the survey. Additionally, a few prospective spouses declined to participate in the research. Furthermore, the findings of this research cannot be generalized to the whole of Iran due to the country's variety of ethnicities and cultural differences. The strengths of this study include being the first study in the region and the first study in Iran after the announcement of demographic policies on marriage applicants to determine the size of the household and investigate the gender preference of children.

The findings of this research, which examined the variables affecting women's optimal family size, contribute to the discussion on fertility in Southern Iran. The research also reveals the change in fertility preferences and views on childbearing in the Jahrom District.

Conclusion

In conclusion, this study showed that the mean age of marriage and the number of children desired by marriage volunteers was 26 years and two, respectively. Additionally, there was a gender preference favoring boys, and couples tended to continue pregnancy and childbearing until the gender of their children matched their desired gender.

Gender preference can increase the fertility rate; on the other hand, it can affect the sex ratio and change the sexual structure of the population in favor of the male gender or vice versa. It is recommended that adolescents and young people receive appropriate instruction on gender equality and gender non-preference in schools and universities to stop gender discrimination and gender preference at the local level. It is suggested that future studies investigate the factors affecting gender preference and the association between gender preference and gender discrimination in different regions of Iran based on socio-economic status and the Social Development Index (SDI).

Authors' Contribution

VR and KR conceived and planned the study. KR and VR were responsible for searching for and screening the literature. MR was responsible for data collection. VR participated in the statistical analysis. KR, NSH, and VR contributed to data interpretation. NSH drafted the manuscript, and VR critically revised the manuscript. All authors read the final manuscript and approved it for publication. NSH had full access to all of the data and took complete responsibility for the integrity of the data and the accuracy of the data analysis.

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References

1 Gupta GR, Oomman N, Grown C, Conn K, Hawkes S, Shawar YR, et al; Gender Equality, Norms, and Health Steering Committee. Gender equality and gender norms: framing the opportunities for health. Lancet. 2019; 393 (10190):2550-2562. doi: 10.1016/S0140-6736 (19)30651-8. PMID: 31155276.

2 Khosla R, Banerjee J, Chou D, Say L, Fried ST. Gender equality and human rights approaches to female genital mutilation: a review of international human rights norms and standards. Reprod Health. 2017; 14 (1):59. doi: 10.1186/s12978-017-0322-5. PMID: 28499386; PMCID: PMC5429526.

3 Chun Ha. 'Not a bowl of rice, but tender loving care': from aborting girls to preferring daughters in South Korea. Asian Popul Stud. 2022; 18 (2):169--89. doi: 10.1080/17441730.2021.1944408.

4 Qadir F, Khan MM, Medhin G, Prince M. Male gender preference, female gender disadvantage as risk factors for psychological morbidity in Pakistani women of childbearing age-a life course perspective. BMC public health. 2011; 11 (1):1-13. doi: 10.1186/1471-2458-11-745. PMID: 21958069; PMCID: PMC3195096.

5 Das Gupta M. Is banning sex-selection the best approach for reducing prenatal discrimination? Asian popul stud. 2019;15 (3):319-36. doi: 10.1080/17441730.2019.1671015.

PMID: 34046078; PMCID: PMC8153244.

6 Asadullah MN, Mansoor N, Randazzo T, Wahhaj Z. Is son preference disappearing from Bangladesh? World Develop. 2021; 140:105353. doi: 10.1016/j.worlddev.2020.105353.

7 Javed R, Mughal M. Changing patterns of son preference and fertility in Pakistan. J Int Develop. 2022.34 (6):1086-1109. doi: 10.1002/jid.3618.

8 Rai P, Paudel IS, Ghimire A, Pokharel PK, Rijal R, Niraula SR. Effect of gender preference on fertility: cross-sectional study among women of Tharu community from rural area of eastern region of Nepal. Reprod Health. 2014;11 (1):15. doi: 10.1186/1742-4755-11-15. PMID: 24528888; PMCID: PMC3927821.

9 Kugler AD, Kumar S. Preference for boys, family size, and educational attainment in India. Demography. 2017;54 (3):835--59. doi: 10.1007/s13524-017-0575-1. PMID: 28484996; PMCID: PMC5486858.

10 Razeghi Nasrabad HB, Alimondegari M. Gender Preference and its Influence on Fertility Intention in the low-Fertility Context of Tehran, Iran. J Mid Reprod Health. 2019;7 (4):1962-70. doi: 10.22038/jmrh.2019.38096.1422

11 Razeghi Nasrabad HB, Saraei H. A Cohort Analysis of Women's Attitude towards Value of Children in Semnan Province. Women Develop Poli. 2014;12 (2):229-50. doi: 10.22059/jwdp.2014.52357.

12 Mehri N, Messkoub M, Kunkel S. Trends, Determinants and the Implications of Population Aging in Iran. Ageing Int. 2020;45 (4):327--43. doi: 10.1007/s12126-020-09364-z.

13 Kiriti TW, Tisdell C. Family size, economics and child gender preference: a case study in the Nyeri district of Kenya. Int j soc economic. 2005; 32 (6):492-509. doi: 10.1108/03068290510596989.

14 Laksono AD, Soedirham O, Saptandari P, Wulandari RD. Study of family size among tenggerese in Indonesia. Int J Innov, Creat Change. 2020; 13 (4):964-78.

15 Marco-Gracia FJ. Adapting family size and composition: childhood mortality and fertility in rural Spain, 1750–1949. J Interd His. 2021;51 (4):509-31. doi: 10.1162/jinh_a_01626.

16 Ambrosetti E, Angeli A, Novelli M. Ideal family size and fertility in Egypt: An overview of recent trends. Statistica. 2019;79 (2):223-44. doi: 10.6092/issn.1973-2201/8811.

17 Van Winkle Z, Leopold T. Family size and economic well-being following divorce: The United States in comparative perspective. Soc Sci Res. 2021;96:102541. doi: 10.1016/j.ssresearch.2021.102541. Epub 2021. PMID: 33867016.

18 Bongaarts J. Can family planning programs reduce high desired family size in sub-Saharan Africa? I Int Perspect Sex Reprod Health. 2011;37 (4):209-16. doi: 10.1363/3720911. PMID: 22227628.

19 Muhoza DN, Broekhuis A, Hooimeijer P. Variations in desired family size and excess fertility in East Africa. Int j popul res. 2014;2 (1):1-11. doi: 10.1155/2014/486079.

20 Bongaarts J, Casterline J. Fertility transition: is sub-Saharan Africa different? Popul Dev Rev. 2013;38 (Suppl 1):153-163. doi: 10.1111/j.1728-4457.2013.00557.x. PMID: 24812439; PMCID: PMC4011385.

21 Jafari HP, Fazli M. Attitude of the Hamadanian young couples about family size, sex ratio and birth order of their asked children. Iran J Pub Health. 2000;29 (4):165-172.

22 Bhaskar V. Sex selection and gender balance. American Economic Journal: Microeconomics. 2011;3 (1):214--44. doi: 10.1257/mic.3.1.214.

23 Arnold F. Sex preference and its demographic and health implications. Int family plan perspect. 1992.9 (1):93-101.

24 Marleau JD, Saucier J-F. Preference for a first-born boy in Western societies. J Biosoc Sci. 2002;34 (1):13--27. PMID: 11814210.

25 Mussino E, Miranda V, Ma L. Changes in sex ratio at birth among immigrant groups in Sweden. Genus. 2018;74 (1):1--15. doi: 10.1186/s41118-018-0036-8. Epub 2018 Sep 3. PMID: 30237588; PMCID: PMC6133054.

26 Goli S, Mavisakalyan A, Rammohan A, Vu L. Conflicts and son preference: Micro-level evidence from 58 countries. Econ Hum Biol. 2022;46:101146. doi: 10.1016/j.ehb.2022.101146. PMID: 35605477.

27 Le K, Nguyen M. Son preference and health disparities in developing countries. SSM Popul Health. 2022;17:101036. doi: 10.1016/j.ssmph.2022.101036. PMID: 35128024; PMCID: PMC8804262.

28 Nafisi N, Zarghami H, Shiri M. Examining the willingness to have children on the eve of marriage and some related factors in Iran. Popul Q. 2017;22 (91):1-9.

29 Yaghoob F, Ashkaran R. Demographic and socio-cultural study of gender preference in Iran. J Appli Soc. 2018;29 (4):59--78. doi: 10.22108/jas.2018.104836.1134.

30 Khatib Shahidi M, F FA. Parental Preferences over Children's Sex: The Case Study of Iran. J Plan Budget. 2018;23 (1):29--57.

31 Majbouri M. Twins, family size and female labour force participation in Iran. Appli Econ. 2019;51 (4):387-97.

32 Ntoimo LFC. Family size preferences among women in a union in Nigeria and associated factors. Int J Popul Stud. 2022;7 (1):51-65. doi: 10.18063/ijps.v7i1.1318.

33 Fathi E. The trend of marriage in Iran with an emphasis on the results of the population and housing censuses. statistics. 2014;2 (2):7-10.

34 Moradi G, Safarian M. Social and economic factors related to increasing the marriage age of young people (case study of Kermanshah city). Q Soc Stud Youth. 2012;7 (3):81-108.