WILEY Perspectives in PSYCHIATRIC CARE

ORIGINAL ARTICLE

Satisfaction with the gender of the baby and related factors

Sermin Timur-Tashan[1] | Saadet Boybay-Koyuncu[2]

[1]Department of Birth, Women Health and Illness, Inonu University, Faculty of Nursing, Health Science Faculty, Malatya, Turkey

[2]Department of Midwifery, Adıyaman University, High School of Health, Adıyaman, Turkey

Correspondence
Saadet Boybay-Koyuncu, Department of Midwifery, Adıyaman University, High School of Health, Adıyaman 02040, Turkey.
Email: saadetboybay87@gmail.com

Abstract

Purpose: The purpose of this study is to determine the correlation between having a baby of the desired gender and related factors.

Design and Methods: The participants were 612 women who gave birth to their babies in the postpartum unit of a hospital in Malatya, Turkey.

Findings: Factors linked to having a baby of the desired gender were: having had a gender preference in a previous pregnancy (2.13 times on average; $P = 0.001$), their partners having a gender preference (2.87 times on average; $P = 0.001$ and 0.005).

Practice Implications: It was found that having a baby of the desired gender was an important factor that affected some fertility characteristics.

Implications for Nursing Practice: It is important to recognize that gender preference exists and investigate it as a variable.

KEYWORDS
fertility, sex, sexism

1 | INTRODUCTION

Pregnancy is a beautiful experience that is exclusive to women which makes them valuable. The gender of a baby is an important variable in the process. Gender preference during pregnancy refers to families having a preference for a gender because of sociocultural and/or economic reasons. Families tend to prefer sons over daughters for different reasons such as the continuation of lineage, economic independence, securing old age, protection of inheritance, and heirship.[1,2] In this sense, gender discrimination in pregnancy precludes the baby from fully benefitting from human rights and is closely related to issues such as inequality in access to resources and opportunities, violence, and inability to benefit from basic services.

The gender of the fetus can be determined in the very early stages of pregnancy thanks to technology.[3] Therefore, families may have a gender preference, which could lead to negative consequences.[4,5] Gender preference in this period strengthens discrimination against women, leads to the loss of girls' value in favor of boys and causes a decrease in the status of women in family and society. The literature shows that mothers with a female fetus are more likely to have insufficient prenatal care and to smoke more and that their newborns are more likely to have a lower birth weight and a lower Apgar score at 1 minute after

birth.[2,6-8] Moreover, the literature maintains that violence during pregnancy is linked with the gender of the baby.[9] It is also held that women have more positive perceptions if they have a baby of the desired gender[10] and that they have higher psychological distress when there is a difference between the gender imagined before pregnancy and the gender of the newborn.[11]

Gender preference may change from one country to another, or even within the same country. The east of Turkey has not only a higher fertility rate (3.11) but also more social gender discrimination.[12] Although Turkey has followed a policy to increase the population until 1960, population-reducing policies began to be pursued in 1965 due to the damage to women's health and burdens on the country's economy caused by the excessive population. Fertility rates, which are high in the east of Turkey, are thought to be related to gender preferences. The fact that Turkey has a paternalistic structure raises concerns that it can cause neglect in caring for female fetuses. In the east of Turkey, it is thought that giving birth to many children, and especially giving birth to a boy, is clearly in the benefit of the woman. Frequent and excessive births given due to gender preference can harm women's health. According to the World Health Organization, gender preference means discrimination against women, and the organization advised governments to determine the level of gender discrimination in their

countries, collect relevant data and find solutions to overcome it.[2] It is quite vital for nurses to research the traditional and cultural factors of the society they serve and prevent health problems that may develop in fetuses and women depending on gender preferences of families. Gender preference is a common social problem in Turkey, especially in the east of the country. The purpose of this study is to determine the correlation between having a baby of the desired gender and related factors.

2 | MATERIALS AND METHODS

This study was planned as a descriptive study. The study was carried out in Malatya between 7 March and 29 July 2016. The population of the study comprised women who gave birth to their babies in the postpartum unit of a hospital in Malatya, Turkey. The hospital where the study was carried out was preferred because it was the only and largest state maternity hospital in the city. At the hospital, there were about 1800 births a year. This study sample comprised 612 women who met the study inclusion criteria according to the power analysis, who was in a 95% confidence interval, (which was determined with a 5% level of significance) who represented the population by 98%, and whose effect size was 0.05. The random sampling method was used in the study. The inclusion criteria were: giving birth to the baby in the 37th to 42nd weeks of pregnancy, not suffering from a psychological disorder, giving birth to a healthy baby and being with the baby after delivery and knowing the gender of the baby during pregnancy. The exclusion criterion was an incomplete response to the questionnaire.

The data were collected from the women who were hospitalized in the postpartum unit within 12 to 48 hours of delivery. The data were collected from the participants who were at the hospital at the same time as the researchers using the random sampling method. The data were collected face to face by researchers every weekday. Great care was taken to make sure that the data collection process started only 12 hours after the delivery, to reduce the risk of postpartum complications and ensure the women were more relaxed during the process.

The data were collected using the questionnaire form for participants, and the questions were designed by the researchers in light of the literature. The questionnaire form was piloted with ten women who were not included in the sample. After the pilot, the ordering of the questions was revised.

The questions in the form were concerned with the descriptive characteristics of the participants, their length of marriage, the gender of the baby, the planned or unplanned nature of the pregnancy, the mode of delivery, having had a gender preference in previous pregnancy, preference of their spouse, the number of deliveries they had, the number of living children, the number of times they had an ultrasound scan, the number of children they planned to have for their family, and the amount of weight gained during pregnancy.[6,7,13] The level of income of the women were evaluated based on their self-reported statements.

The data were analyzed using the Statistical Package for the Social Sciences software (version 19, SPSS Inc; Chicago, IL). The study also included bivariate analyses of the variables that could be related to having a gender preference in pregnancy. First, the χ^2 test and independent sample's t test were performed to identify how having a baby of the desired gender was correlated with discrete data and continuous data, respectively. Subsequently, statistical analyses involved a backward stepwise logistic regression analysis. The level of statistical significance was $P < 0.05$.

3 | ETHICAL CONSIDERATIONS

The Ethics Committee for Scientific Research and Publication in Health Sciences at Inonu University granted permission for the study (2016-12/8). Moreover, written permission was obtained from the institution where the study took place. The participants were informed about the research. They were told that their personnel information would be protected, and they could withdraw at any time they wanted. Afterward, the volunteers were included in the study.

4 | RESULTS

Table 1 shows the sociodemographic distribution of the participants. In the survey, it was determined that 76.80% of the women were in the age group of 20 to 34 years, and 59.40% were primary school graduates. The rate of having a baby with undesired gender in the study was found to be higher in women aged 35 and over than in women aged 19 and under ($\chi^2 = 7.60$, $P = 0.001$). Again, the rate of having a baby with undesired gender was found to be higher in women who were married for 9 years or more than in women who were married for 4 years or less ($\chi^2 = 20.57$, $P = 0.010$; Table 1).

Table 2 shows the distribution of the obstetric characteristics of the participants by whether or not they had a baby of their desired gender. Among the participants, 76% reported having a baby of the desired gender (Table 2). Whilst the mean number of pregnancies was 2.74 (1.74) for those who had a baby of their desired gender, this figure was 3.41 (1.78) for those who did not ($t = 2.41$, $P = 0.001$). Similarly, the former had a lower number of living children than the latter (2.25 [1.25] and 2.82 [1.37], respectively) ($t = 3.24$, $P = 0.001$; Table 2).

While those who had a baby of their desired gender had 6.10 (3.29) ultrasound scans during their pregnancy, those who did not have a baby of their desired sex had 7.13 (4.25) ultrasound scans ($t = 2.07$, $P = 0.050$). Moreover, the former planned to have 3.11 (0.86) children for their family, whereas the latter planned to have 3.39 (0.82) children ($t = 2.94$, $P = 0.001$; Table 2).

The analyses revealed that having a baby of one's desired gender was significantly correlated with age ($P = 0.001$), length of marriage ($P = 0.010$), the number of living children ($P = 0.001$), the number of pregnancies ($P = 0.001$), the number of ultrasound scans ($P = 0.050$), the number of children planned for the family ($P = 0.001$), having had

TABLE 1 The sociodemographic distribution of the participants (N = 612)

	Having a baby of the desired gender, N (%)			
Variables	Yes (n = 465)	No (n = 147)	Total (n = 612)	Statistical test (P values)
Age[a], y				$\chi^2 = 7.60$ (0.001)
≤19	15 (3.20)	2 (1.40)	17 (2.80)	
20-34	366 (78.70)	104 (70.70)	470 (76.80)	
≥35	84 (18.10)	41 (27.90)	125 (20.40)	
Educational level, y				$\chi^2 = 0.29$ (0.862)
Literate	26 (5.60)	10 (6.80)	36 (5.90)	
Primary school	276 (59.40)	86 (58.50)	362 (59.10)	
High school and above	163 (35.00)	51 (34.70)	214 (35.00)	
Spouse education level, y				$\chi^2 = 1.19$ (0.052)
Literate	8 (1.70)	0 (0.00)	8 (1.30)	
Primary school	200 (43.00)	77 (52.40)	277 (45.27)	
High school and above	257 (55.30)	70 (47.60)	327 (53.43)	
The length of marriage, y				$\chi^2 = 20.57$ (0.010)
≤4	194 (41.70)	32 (21.80)	226 (36.90)	
5-8	111 (23.90)	40 (27.20)	151 (24.70)	
≥9	160 (34.40)	75 (51.00)	235 (38.40)	
Family income				$\chi^2 = 1.54$ (0.462)
Good	63 (13.50)	16 (10.90)	79 (12.90)	
Medium	275 (59.10)	84 (57.10)	359 (58.73)	
Lower	127 (27.40)	47 (32.00)	174 (28.37)	

[a]Average age: 29.10 (5.76).

TABLE 2 The distribution of the obstetric characteristics of the participants based on whether or not they had a baby desired gender (N = 612)

The obstetric characteristics	Having a baby of the desired gender, Mean (SD)			Statistical test (P values)
		Yes (n = 465)	No (n = 147)	
The number of pregnancy	2.90 (1.77)	2.74 (1.74)	3.41 (1.78)	t = 2.41 (0.001)
The number of living children	2.38 (1.30)	2.25 (1.25)	2.82 (1.37)	t = 3.24 (0.001)
The number of ultrasound scans	6.35 (3.57)	6.10 (3.29)	7.13 (4.25)	t = 2.07 (0.050)
The number of children planned for family	3.18 (0.86)	3.11 (0.86)	3.39 (0.82)	t = 2.94 (0.001)
Weight gain during pregnancy	12.40 (4.65)	12.55 (4.71)	11.90 (4.43)	t = 1.48 (0.139)

a gender preference in a previous pregnancy (P = 0.001), and their spouses having a gender preference (P = 0.001; Tables 1, 2 and 3).

The analysis showed that having had a gender preference in a previous pregnancy was a 2.13 times greater risk factor associated with the participants who reported having a baby of the desired gender (P = 0.001). Furthermore, spouses' gender preference was a 2.87 times greater risk factor than the spouses not having a gender preference (P = 0.001). In addition, an increase in the number of children the participants planned to have for their family meant a 1.33 times greater risk factor (P = 0.034). Finally, an increase in the number of ultrasound scans was a 1.09 times greater risk factor (P = 0.005; Table 4).

5 | DISCUSSION

In societies with a preference for gender, women are coerced to give birth to children until they have a baby with the sex desired by family members that may include women themselves. Their social status is affected not only by having a high number of children but also by consequences of having children of the desired gender.[14] This study attempted to determine the correlation between having a baby of the desired gender and obstetric characteristics.

The results showed that nearly three-quarters of the participants had a baby of their desired gender, which was usually male. Gender preference has been dealt with in a number of studies with different perspectives. Gender preference may change depending on the country and culture, or even depending on the region of the country.[15,16] Another study reported that 55.6% of the participants in their study had a gender preference, whereas only 10.7% of the pregnant women in another study considered the gender of the baby to be important.[7,17] Another study reported that 74.7% of the participants in their study had a gender preference and 28.3% of them had a baby of a different gender than they would rather have.[15] In this study, most of the participants had a baby of their desired gender, which is likely to have a good influence on postpartum maternal and infant health.

In addition, it was determined that husbands' gender preferences caused women to have a preference regarding the gender of their baby. This result suggests that women tend to be influenced by their spouses and attribute meaning to gender if the latter has a gender

preference. Similarly, another study reported that 50.6% of the spouses of their participants had a gender preference.[7] In other words, their result and the results in this study were in agreement supported that of the present study.

Another result of the study was that having a baby of the desired gender was not significantly correlated with the gender of the baby, the nature of the pregnancy as being planned or unplanned, the mode of delivery or the amount of weight gained during pregnancy (P > 0.05). Similarly, another study did not find a significant correlation between gender preference and the nature of the pregnancy as being planned or unplanned.[15] Although they are not directly comparable with to present this study, several studies in the literature did not find a significant correlation between the gender of the baby and the nature of the pregnancy as being planned or unplanned[18] or the mode of delivery.[18] However, a study has reported a significant correlation with the gender of the baby.[19] In summary, the results of this study were partly similar to those in the literature.

For multiparous women, the gender of the children they already have might shape their gender preference for their current pregnancy. The study showed that the percentage of the participants who had a gender preference in a previous pregnancy but did not have a baby of the desired gender in their current pregnancy was 2.1 times higher than the percentage of participants who had not had a gender preference in a previous pregnancy. Another study reported that 40% of primiparous women had a gender preference during their pregnancy for their babies, while this figure was 88% for multiparous women.[20] In addition, the authors found that the participants' gender preference for their current pregnancy was shaped by the gender of the children they already had.[21] In other words, their findings were in agreement with those in this study.

Ultrasound is the most commonly used technic in the prenatal period, and it is more often used to determine the gender of the fetus.[20,22] This study found that the number of ultrasound scans was lower for those who had a baby desired gender. The logistic regression analysis revealed that an increase in the number of ultrasound scans meant a 1.09 times greater risk factor associated with having a baby of the desired gender. Ultrasound can predict fetal gender in the first 3 months with an accuracy of 90%. The level of accuracy is greater for a female fetus compared with a male fetus, and predictions become more accurate as pregnancy progresses.[23] In

TABLE 3 The distribution of the obstetric characteristics of the participants based on whether or not they had a baby of the desired gender (N = 612)

The obstetric characteristics	Having a baby of the desired gender, N (%)		Statistical test (P values)
	Yes (n = 465)	No (n = 147)	
The gender of the baby			$\chi^2 = 0.65 \ (0.770)$
Female	219 (47.10)	71 (48.30)	
Male	246 (52.90)	76 (51.70)	
Pregnancy			$\chi^2 = 0.67 \ (0.159)$
Planned	384 (82.60)	117 (79.60)	
Unplanned	81 (17.40)	30 (20.40)	
Mode of birth			$\chi^2 = 1.35 \ (0.245)$
Vaginal	218 (46.90)	77 (52.40)	
Cesarean	247 (53.10)	70 (47.60)	
Having a gender preference in a previous pregnancy[a] (n = 474)			$\chi^2 = 30.95 \ (0.001)$
Yes	110 (32.00)	78 (60.0)	
No	234 (68.00)	52 (40.0)	
Gender preference of the spouse			$\chi^2 = 44.90 \ (0.001)$
Yes	188 (39.70)	106 (72.10)	
No	277 (59.60)	41 (27.90)	
Total	465 (76.00)	147 (24.00)	612 (100.00)

[a]Only answered by multiparous women.

TABLE 4 The analysis of certain variables related to having a baby of the desired gender

Factors	OR	95% CI	P[a]
Age, y	1.00	0.94, 1.06	0.980
The length of marriage, y	1.02	0.95, 1.09	0.524
The number of living children	1.21	0.86, 1.70	0.264
The number of pregnancies	0.84	0.67, 1.06	0.159
Gender preference of the spouse			
Yes	2.87	1.80, 4.59	0.001
Having a gender preference in a previous pregnancy			
Yes	2.13	1.35, 3.35	0.001
The number of children planned for family	1.33	1.02, 1.74	0.034
The number of ultrasound scans	1.09	1.02, 1.16	0.005

Abbreviations: CI, confidence interval; OR, Odds ratio.
[a]Logistic regression.

this study, the participants who did not have a baby desired gender had a higher number of ultrasound scans, which could be associated with their attempts to confirm the gender of the baby.

The results did not show a significant correlation between the amount of weight gain during pregnancy and having a baby of the desired gender (P > 0.05). Similarly, another study that took place in Turkey also did not report a significant correlation between the amount of weight gain during pregnancy and the desired gender of the baby.[18] In societies marked by gender discrimination, preference of a son is a common determinant of fertility. The high value placed on having a son is closely intertwined with the status of women, which causes them to give birth repeatedly until they have the desired number of sons.[2,13,24–28] Having a son is a significant factor infertility in Turkey, too. According to the 2013 Turkey Demographic Health Survey,[12] the fertility rate across Turkey was 2.26, while it was 1.93 in the west but 3.41 in the east, where a higher value is placed on sons and a more patriarchal structure is prevalent.[12,13] This study, which was carried out in eastern Turkey, found that the number of future children planned by the women who did not have a baby desired gender was 1.33 times higher. Another study reported that 13.3% of women planned to give birth until they had a baby desired gender, which supports the findings of this study.[13] The participants who reported having a baby desired gender more often had a son, which suggests that they attached importance to having a son, but it was not the only determinant of fertility regulation. In fact, having a baby of the desired gender was a significant determinant of fertility. Limitation of the study was that women may be concerned about whether they will be socially

welcomed when they indicate their gender preference, and thus, they may hide their current preferences.

6 | CONCLUSION

The results suggest that having a baby of the desired gender is influenced by husbands' perceptions on the gender of the baby and women had a gender preference in the previous pregnancy. In addition, having a baby of the desired gender is significantly related to the frequency of ultrasound scans and the number of children that couples plan to have.

The study concludes that the society's gender preference should be taken into account in women's prenatal care and fertility regulation, and their perceptions should be the subject of focus in approaches to situations that pose a risk to maternal and infant health.

ACKNOWLEDGMENT

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

AUTHOR CONTRIBUTIONS

This study was designed by STT, data collection was done by SBK and STT, SBK performed data analysis, and manuscript preparation was done by STT and SBK.

ORCID

Sermin Timur-Tashan http://orcid.org/0000-0003-3421-0084
Saadet Boybay-Koyuncu http://orcid.org/0000-0002-6145-9179

REFERENCES

1. Möller A, Öfverstedt S, Siwe K. Proud, not yet satisfied: the experiences of abortion service providers in the Kathmandu Valley, Nepal. *Sex Reprod Healthc*. 2012;3(4):135-140.
2. World Health Organization. (2011). Preventing gender-biased sex selection. An interagency statement OHCHR, UNFPA, UNICEF, UN Women and WHO 2011. http://apps.who.int/iris/bitstream/10665/44577/1/9789241501460_eng.pdf. Accessed April 19, 2017
3. Pietropolli A, Capogna MV, Cascella R, et al. Three-hour analysis of non-invasive fetal sex determination: application of Plexor chemistry. *Hum Genomics*. 2016;4(4):10-19.
4. Browne TK. Why parents should not be told the sex of their fetus: a response to the commentaries. *J Med Ethics*. 2017;43(1):19-21.
5. Fovargue S, Bennett R. What role should public opinion play in ethico-legal decision making? The example of selecting sex for non-medical reasons using preimplantation genetic diagnosis. *Med Law Rev*. 2016;24(1):34-58.
6. Guilmoto CZ. Mapping the diversity of gender preferences and sex imbalances in Indonesia in 2010. *Popul Stud (Camb)*. 2015;69(3):299-315.
7. Yasmin S, Mukherjee A, Manna N, et al. Gender preference and awareness regarding sex determination among antenatal mothers attending a medical college of eastern India. *Scand J Public Health*. 2013;41:344-350.
8. Chhetri UD, Ansari I, Bandary. S, Adhikari N. Sex preferences among mothers delivering at Patan Hospital. *KUMJ*. 2011;9(36):229-232.
9. Deuba K, Mainali A, Alvesson HM, Karki DK. Experience of intimate partner violence among young pregnant women in urban slums of Kathmandu Valley, Nepal: a qualitative study. *BMC Women's Health*. 2016;16:2-11.
10. Manav G, Yıldırım F. Perception of term and preterm babies by their mothers. *Cumhuriyet Med J*. 2010;32:149-157.
11. Mutlu C, Yorbik O, Tanju I, Celikel F, Sezer R. Association of prenatal, natal, and postnatal factors with maternal attachment. *Anatolian J Psychiatry*. 2015;16:442-450.
12. Hacettepe University. Prime Ministry Turkish Statistical Institute (TDHS). (2013). Turkey Demography and Health Survey. http://www.hips.hacettepe.edu.tr/tnsa2013/rapor/TNSA_2013_ana_rapor.pdf.
13. Koyun A, Demir Ş. The effect of the sex of the fetus on the role of motherhood and the ideas concerning pregnancy. *Gümüşhane University J Health Sci*. 2013;2:2-4.
14. Akın, A., Okur, S.M. Female status and maternal deaths. http://www.huksam.hacettepe.edu.tr/Turkce/SayfaDosya/kadinin_statusu_anne_olumleri.(4.09.2008). Accessed: July 22, 2018.
15. Işeri E, Özbaş AA, Gürhan N, Sari BA. Preferences for sex of firstborn child among primiparous Turkish women. *Psychol Rep*. 2012;1:165-172.
16. Koyun A, Buken ON. A violation of equality and the right to life: sex selection. *JHS*. 2013;10:34-46.
17. Erbil N, Sağlam G. Relationship with some socio-demographic characteristics and traditional beliefs, practices about forecast and determination of baby gender during pregnancy. *JHS*. 2010;7(4):347-359.
18. Akgün, N. *Maternal body mass index and body weight increase during pregnancy monitoring in relation to perinatal outcomes* [Unpublished Master's Thesis]. Ankara: Hacettepe University, Faculty of Health Sciences Program in Nutritional Sciences; 2013.
19. Taşhan ST, Sahin HN, Sönmez OM. Maternal smoking and newborn sex, birth weight, and breastfeeding: a population-based study. *J Matern Fetal Neonatal Med*. 2016;24(2):1-6.
20. Kooper AJ, Pieters JJ, Eggink AJ, et al. Why do parents prefer to know the fetal sex as part of invasive prenatal testing? *ISRN Obstet Gynecol*. 2012;2:524-537.
21. Warade Y, Balsarkar G, Bandekar P. A study to review sex ratio at birth and analyze preferences for the sex of the unborn. *J Obstet Gynaecol India*. 2014;64(1):23-26.
22. Edvardsson K, Graner S, Thi LP, et al. Women think pregnancy management means obstetric ultrasound: 'Vietnamese obstetricians' views on the use of ultrasound during pregnancy. *Glob Health Action*. 2015;8(5):395-405.
23. Altunyurt S, Pala HG, Mantar OP. First trimester fetal gender assignment by ultrasound. *J Turk Soc Obstet Gynecol*. 2010;7(1):23-28.
24. Golmakani N, Fazeli E, Taghipour A, Shakeri MT. Relationship between gender role attitude and fertility rate in women referring to health centers in Mashhad in 2013. *Iran J Nurs Midwifery Res*. 2015;20(2):269-274.
25. Keiski P, Flinck A, Kaunonen M, Paavilainen E. Professor Eija Paavilainen. Childhood experiences of female family-violence perpetrators. *Perspect Psychiatr Care*. 2017;54(2):251-257.

26. Macklin R. The ethics of sex selection and family balancing. *Semin Reprod Med*. 2010;28(4):315-321.

27. Margolis R, Myrskyla M. Children's sex and the happiness of parents. *Eur J Popul*. 2016;32(3):403-420.

28. Panahi S, Fahami F. The results of pregnancies after gender selection by preimplantation genetic diagnosis and its relation with couple's age. *Iran J Nurs Midwifery Res*. 2015;20(6):670-675.