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Attitudes toward fertility and childbearing among female University students

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ABSTRACT

BACKGROUND

In recent years, there has been a significant decrease in childbearing rates in many parts of the world. Young people who delay their marriage plans for various reasons also indirectly delay their childbearing to advanced ages. Postponed childbearing may lead to increased health risks for both mother and child. This study aimed to determine attitude towards fertility and childbearing in female university students.

METHODS

This cross-sectional study involved 259 female university students. The data were collected with Attitudes Toward Fertility and childbearing Scale (AFCS). Data were analyzed using t test and one-way ANOVA.

RESULTS

In the study 92.7% of the students wanted to become a future mother. The importance of fertility for the future mean score of the students with low income level (21.56±8.14) was found to be lower than the students with medium (25.80±6.51) and high income level (25.29±4.37) ($p<0.05$). The importance of fertility for the future mean score of only-child students (22.57±7.09) was lower than that of the other students (25.82±6.45). The importance of fertility for the future mean score of the students who did not have a date was also found to be lower than the students who had a date ($p<0.05$).

CONCLUSION

In the study, students with a low income level, who are an only child and who do not have a date during the study care less about fertility for the future. Also, students with a single-parent family, with siblings, and no previous sexual intercourse identify childbearing more with female identity.

Keywords: Childbearing, attitudes, female university students, Turkey

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INTRODUCTION

In recent years, there has been a significant decrease in childbearing rates in many parts of the world. From 1990 to 2019, the global childbearing rate per woman declined from 3.2 to 2.5. This rate is estimated to fall down to 2.2 in 2050 and 1.9 in 2100.[1] As in the rest of the world, childbearing rates also tend to decrease in Turkey, from 2.7 children to 2.3 in the past 25 years.[2] The decline in childbearing rates all over the world is thought to be influenced by factors such as the increased education level of women, the widespread use of birth control, and delayed ages of marriage and childbearing.[3] In Turkey, childbearing rates differ depending on the region, education level, and income level.[2]

The decision to bear children is a multifaceted process that is influenced not only by individual, social, and economic factors but also by social policies.[4] Technological advancements and economic changes have affected people's lifestyles all over the world. The fact that women are more active in working life and the spread of individualization with globalization has disrupted the traditional family structure.[5] Increased education, employment, and career opportunities for women have impacted motherhood and reproductive behaviors. As women took on more active roles in business life and began to move away from home life to achieve their business goals, the number of nuclear families of two has begun to increase. Consequently, many European countries have experienced a decrease in the number of births and a rise in delayed childbearing age.[6] Postponing parenting for individual, social, economic, and social reasons is not always a conscious process, but it can also cause an increase in the incidence of infertility.[4]

In Turkey, the acceptance of childbearing and having an active sexual life is associated with marriage. The median age of first marriage for Turkish women in the 25-49 age group is 21.4 years. The age of first marriage stands higher in western countries, urban women, and women with higher education levels.[2] Young and educated women delay their plans regarding childbearing to advanced ages to continue their education, achieve their career and business goals, and achieve economic independence, thanks to the developed contraceptive methods.[7] Young people who delay their marriage plans for various reasons also indirectly delay their childbearing to advanced ages.[8] Most young people are considering having children in the future, but cite some reasons for delaying childbearing, such as career goals.[9,10]

Considering the social status of women in this way, it can be said that the most appropriate age for giving birth is between 25-35 years, when they have completed their education and gained some skills in business life.[11] However, the decreasing number and quality of ovarian follicles with advanced maternal age cause loss of reproductive potential, widespread use of assisted reproductive techniques, and increased obstetric morbidity and perinatal complications.[4,12] On the other hand, studies on the subject show that young women who consider postponing motherhood to later dates do not have enough information about the time of childbearing.[13]

In this context, from a cultural and social point of view, it is very important to determine the perspectives of young women on childbearing and having children in conservative societies such as Turkey, where the status of women is accepted as equivalent to fertility, in terms of determining fertility and reproductive policies in the future.[14,15] When the national literature on the subject is examined, it is seen that there are a limited number of quantitative studies to determine the fertility and childbearing behaviors and attitudes of young women, mostly qualitative studies.[15,16] Regarding the Attitudes Toward Fertility And Childbearing Scale (AFCS) scale developed by Söderberg et al.,[8] Persian and Japanese versions have been published, and Turkish validity and reliability studies have been conducted. The information about the attitudes among university students for timing of their parenthood is scanty. A previous study among female students (n=300)

visiting a Student Health Centre in Sweden, showed that female university students are not very concerned about having children before they get 'too old' and had an acceptable understanding about fertility.[17] Another study in female university students in Cameroon, showed that most of the female students intend to have children in the future, but their fertility awareness knowledge was suboptimal.[18]

Considering the fact that a deeper understanding of the attitudes towards fertility and motherhood may help clarify the decision to have children among young individuals in Turkish-young females, there is a great need for further study in this area. Therefore the current study aimed to determine the attitude towards fertility and childbearing in female university students

METHODS

Research design

This cross-sectional study was carried out with female university students studying at the undergraduate department of a state university between May and June 2019.

Research subjects

The study population consisted of 450 female students continuing their education in the relevant department of the university as of 2019. Since it was impossible to reach the whole population in terms of time, costs, and application, the sample size was calculated using the simple random sampling formula.

In the validity and reliability study of the AFCS scale, it was calculated as 26.52±5.98 for the future importance subscale, 28.06±8.25 for the present obstacle subscale and 15.68±5.41 for the femininity identity subscale.[19]

The sample size required for the future importance subscale was:

$$n = \frac{t_{\frac{\alpha}{2},\infty}{}^2 * S^2}{d^2} = \frac{1.96^2 * 5.98^2}{(26.52 * 0.05)^2} = 79$$

The sample size for the present obstacle sub-dimension was:

$$n = \frac{t_{\frac{\alpha}{2},\infty}{}^2 * S^2}{d^2} = \frac{1.96^2 * 8.25^2}{(28.06 * 0.05)^2} = 133$$

The sample size for the femininity identity sub-dimension:

$$n = \frac{t_{\frac{\alpha}{2},\infty}{}^2 * S^2}{d^2} = \frac{1.96^2 * 5.41^2}{(15.68 * 0.05)^2} = 181$$

The Attitudes Toward Fertility And Childbearing Scale (AFCS) used consists of 3 sub-dimensions, and there is only one study in Turkey in which the validity and reliability of this scale was tested.[19] Since the evaluation of the AFCS scale was calculated for each sub-dimension, the calculation of the sample size in this study was made separately for each sub-dimension. The effect sizes in the calculations are 5% of the arithmetic mean. As a result of the calculations, the sample sizes of the AFCS scale were determined to be 79 for the future importance sub-dimension, 133 for the current barriers sub-dimension, and 181 for the identity of women sub-dimension. It was understood that the sample size to be selected in this study should be at least 181. All students who met the inclusion criteria and gave their written consent to participate were included. The study was completed with 259 students.

The inclusion criteria were: i). volunteering to participate; ii).being a female university student in the undergraduate program; and iii) single student aged >18 years. The exclusion criteria were: i) having experienced a previous pregnancy or childbirth, and ii) having physical, mental, visual or auditory disabilities that may prevent reading, understanding, and answering the items in the questionnaire to be filled by the participants.

Data collection

Female university students who did not meet the inclusion criteria or did not agree to participate after being rationally informed about the study were excluded. Although the minimum sample size was 181, the researchers distributed 300 questionnaires, considering possible losses. At the

Table 1. Distribution of student's characteristics (n=259)

Characteristics	n	%
Age (years)		
≤19	70	27.0
20-22	160	61.8
≥23	29	11.2
Place of birth		
City	68	26.3
District	108	41.7
Village	83	32.0
Place of residence		
City	81	31.3
District	127	49.0
Village	51	19.7
Income level		
Low	25	9.7
Middle	213	82.8
High	21	8.1
Student residence		
Dormitory	156	60.2
With friends at student house	63	24.3
At home with my family	40	15.4
Being only child		
Yes	37	14.3
No	222	85.7
Family type		
Nuclear	200	77.2
Extended	59	22.8
Single-parent family		
Yes	44	17.0
No	215	83.0
Education level of the mother		
Literate or primary school graduate	196	75.7
Middle school-high school graduate	24	9.3
College-University	39	15.1
Education level of the father		
Literate-Primary School Graduate	84	32.4
Middle school-high school graduate	118	45.6

end of the data collection 285 questionnaires were received. After excluding incomplete and incorrectly filled questionnaires, a total of 259 forms were left to be evaluated. A total of 26 questionnaires were not included in the analysis due to insufficient or blank responses. The students were reached during their breaks. Each of the students completed their questionnaire in 15 minutes on average. Explanations about the study were made by the researchers and written informed consent was obtained from the students.

Data collection tools

During data collection, a personal information form was used, consisting of 12 questions about the sociodemographic characteristics of the students, namely age, place of birth, place of residence, monthly income, perceived family income, student residence, being an only child, family type (single-parent family), education level of the mother and father, working status of the mother, dating at the time of the study, previous sexual intercourse, and desire to have children in the future.

The attitudes towards fertility and childbearing scale (AFCS)

To determine the attitudes of female university students towards fertility and childbearing, the Attitudes towards Fertility and Childbearing Scale (AFCS) was used, which was developed by Söderberg et al.[20] and tested for Turkish reliability and validity by Damar.[19] The AFCS was developed for nulliparous women between the ages of 20-30 to determine attitudes towards fertility and childbearing, and the second version of the scale was revised in 2015.[20] It is a 27-item five-point likert-type scale (1-strongly disagree; 2- disagree; 3-neither agree nor disagree; 4-agree; 5-strongly agree). Lower scores indicate negative attitudes towards fertility and childbearing. The scale consists of 3 subscales on the importance of fertility for the future (8 items), seeing childbearing as a hindrance at present (13 items), and the female identity (6 items). Scores range between 8-40 points for the importance of fertility for the future subscale, 13-65 points for the childbearing as a hindrance at present subscale, and 6-30 points for the female identity subscale. The Cronbach alpha coefficients of the original scale and the subscales range between 0.862 and 0.945. In the Turkish reliability and validity study by Damar,[19] the total Cronbach alpha coefficient of the scale was found to be 0.82, and the coefficients for the subscales were 0.89 for childbearing as a hindrance at present, 0.92 for importance of fertility for the future, and 0.90 for female identity.

In our study, Cronbach alpha coefficients were 0.83 for the whole scale, 0.91 for the "future importance" subscale, 0.84 for the childbearing as a hindrance at present subscale and 0.81 for the female identity subscale.

Data analysis

Statistical analysis was performed using the SPSS for Windows 22.0 software. In statistical evaluation, percentage and mean values were calculated. After evaluating the data for conformity to a normal distribution, t test and ANOVA were used. Mean scores were given together with standard deviation (SD) (Mean± SD) and $p<0.05$ was accepted as the statistical significance level.

Ethics

Permission was obtained from the researcher who carried out the Turkish validity study of the scale. Before data collection informed consent was obtained from the students. In order to conduct the study, approval was obtained from the Hitit University Ethics Committee (No. 2019-106).

RESULTS

In the study, 61.8% of the students were aged between 20-22 years. We found that 26.3% of the students were born in the city, 49% lived in a district, and 82.8% had a moderate income level. We also found that 60.2% of the students lived in dormitories, 77.2% had extended families, 14.13% were an only child, and 17% had a single-parent family. In addition, 75.7% of the students had mothers who were literate or primary school graduates, 45.6% had fathers who were middle or high school graduates, and 36.3% had working mothers. Finally, 40.9% of the students stated that they were dating at the time of the study, 10.8% stated that they never had sexual intercourse, and 92.7% wanted to become a future mother (Table 1).

In the study, the students' AFCS total mean score was 73.37±11.49. When the distribution of AFCS sub-dimension mean score is examined, the importance of fertility for the future sub-dimension score is 25.35±6.63, childbearing as a hindrance at present sub-dimension score is 30.73±6.66, and female identity sub-dimension score is 17.29±4.31.

In this study, when the distribution of students' AFCS total mean score and AFCS sub-dimension mean score according to some characteristics are examined, the importance of fertility for the future sub-dimension mean score (21.56±8.14) of the students with low income level was found to be lower than for the students with medium (25.80 ±6.51) and high income level (25.29±4.37). This difference was found to be statistically significant ($p<0.05$). In addition, the importance of fertility for the future sub-dimension mean score of the only-child students (22.57±7.09) is lower than that of the other students (25.82±6.45). During the study, the importance of fertility for the future sub-dimension mean score of the students who did not have a date was also found to be lower than for the students who had a date. This difference was also found to be statistically significant ($p<0.05$). In other words, according to these findings, it can be said that students with a low income level, who are an only child, and who do not have a date during the study, care less about fertility for the future**.** The differences between the mean scores of age, place of birth, place of residence, student residence, family type, the state of having single-parent family, education level of the mother, education level of the father, working status of the mother, and having prior sexual intercourse, respectively, in the importance of fertility for the future sub-dimension was found to be statistically not significant ($p>0.05$) (Table 2).

In the study, the childbearing as a hindrance at present sub-dimension mean score of the students whose mothers are working (32.11±5.66) is higher than that of the students whose mothers are not working (29.95±7.06) ($p<0.05$). In other words, it can be said that students whose mothers are working now see childbearing as an obstacle in planning their lives. The differences between

the mean scores of age, place of birth, place of residence, income level, student residence, being an only child, family type, the state of having single-parent family, education level of the mother, education level of the father, dating at the time of the study, and having prior sexual intercourse, respectivley, in the importance of fertility for the future sub-dimension were found to be statistically not significant (p>0.05) (Table 2).

In the study, the female identity sub-dimension mean score (19.09±3.65) of the students with a single-parent family was found to be higher than that of the other students (16.92±4.35). The female identity sub-dimension mean scores of the students with only one child (15.92±4.99) were lower than the students who did not have one child (17.52±4.15). In addition, mean female identity sub-dimension scores of students who have not had prior sexual intercourse are higher (17.52±4.23) than students who have had prior sexual intercourse (15.39±4.53). This difference was found to be statistically significant (p<0.05). In other words, according to these findings, it can be said that students who have a single-parent family, have siblings, and have no previous sexual intercourse, identify childbearing more with female identity and consider being a mother important in terms of female identity. The differences between mean scores of age, place of birth, place of residence, monthly income, perceived families' income, student residence, family type, education level of the mother, education level of the father, working status of the mother, dating at the time of the study, respectively, in the desire to have children in the future and female identity sub-dimension mean score was found to be statistically not significant (p>0.05) (Table 2).

DISCUSSION

In our study AFCS total mean score (73.37±11.49) and AFCS sub-dimension total mean scores (the importance of fertility for the future (25.35±6.63), seeing childbearing as a hindrance at present (30.73±6.66), the female identity (17.29±4.31) of female students were found to be higher. In the validity and reliability study of the scale, it was calculated as being 26.52±5.98 for the future importance subscale, 28.06±8.25 for the present hindrance subscale and 15.68±5.41 for the femininity identity subscale.[19] Accordingly, it can be said that female students participating in the study generally have a positive attitude towards childbearing and having children in the future. In addition, these findings show that the participants associate childbearing with female identity and consider motherhood as a requirement of being a woman. In addition, the high mean score of seeing childbearing as a hindrance at present indicates that the female students participating in the study currently consider having a child as an obstacle in terms of self-realization and career planning.

In our study almost all of the female students in the study reported that they wanted to be mothers in the future (92.7%). In similar studies students thought that childbearing was important and they wanted to have children in the future.[10,21-23] In studies conducted in Turkey, the majority of students stated that they would like to have children in the future.[24,25]These finding indicate that young women have a positive attitude and desire towards having children in the future. In our study, the differences in mean scores of age, place of birth, place of residence, student residence, family type, having a single-parent family, education level of the mother, education level of the father, working status of the mother, and having prior sexual intercourse, respectively, were not significant in the importance of fertility for the future sub-domain. It was also determined that students with low income, who are single children and who do not have a date at the moment, care less about having a child in the future than other students. In many studies, parallel to this study, the importance women attribute to childbearing and having children in the future is influenced by many socio-cultural characteristics.[16,23,25] In some studies, similar to the results of our study, it has been determined that the thoughts of young nulliparous women

Table 2. Distribution of Fertility and childbearing Scale (AFCS) Subdimension mean scores by student characteristics

Characteristics	Attitudes to Fertility and childbearing Scale (AFCS) Sub-dimensions					
	Importance of fertility for the future Sub-dimension		Childbearing as a hindrance at present Sub-dimension		Female identity Sub-dimension	
		p value		p value		p value
Age (years)						
≤19	24.53±6.51	0.255	30.67±6.09	0.974	16.83±3.61	0.515
20-22	25.43±6.79		30.80±7.05		17.53±4.54	
≥23	26.93±5.89		30.52±5.93		17.10±4.59	
Place of birth						
City	24.81±6.32	0.680	31.09±6.42	0.762	16.72±4.38	0.288
District	25.71±6.77		30.83±6.68		17.75±4.35	
Village	25.33±6.74		30.31±6.87		17.16±4.18	
Place of residence						
City	24.88±6.28	0.550	31.01±6.54	0.850	16.67±4.39	0.291
District	25.81±6.81		30.72±6.77		17.60±4.37	
Village	24.96±6.78		30.33±6.66		17.51±4.00	
Monthly income						
0-1000 TRY	25.04±6.81	0.323	30.75±6.48	0.985	17.21±4.46	0.751
1001 TRY - 2600 TRY	26.71±6.54		30.77±6.78		17.84±3.93	
≥ 2601 TRY	26.36±4.68		30.50±8.34		17.27±3.33	
Perceived family income						
Low	21.56±8.14	0.010	28.92±6.84	0.351	15.76±5.72	0.175
Middle	25.80±6.51		30.90±6.61		17.45±4.18	
High	25.29±4.37		31.24±6.96		17.52±3.47	
Student residence						
Dormitory	25.08±6.65	0.265	30.28±6.64	0.312	17.33±4.32	0.924
With friends at student house	25.03±7.10		31.06±7.07		17.11±4.75	
At home with my family	26.93±5.69		32.00±6.01		17.43±3.57	
Being only child						
Yes	22.57±7.09	0.006	32.32±6.40	0.117	15.92±4.99	0.036
No	25.82±6.45		30.47±6.68		17.52±4.15	
Family type						
Nuclear	25.23±6.86	0.573	30.71±6.87	0.899	17.12±4.43	0.244
Extended	25.78±5.84		30.83±5.84		17.86±3.87	
Single-parent family						
Yes	25.07±6.51	0.757	30.73±6.25	0.995	19.09±3.65	0
No	25.41±6.67		30.73±6.75		16.92±4.35	
Education level of the mother						
Literate or primary school	25.34±6.62	0.893	30.84±6.68	0.885	17.40±4.32	0.713
Middle school-high school	24.88±7.29		30.17±5.10		16.67±3.41	
College-University	25.69±6.43		30.73±6.66		17.13±4.81	
Education level of the father						
Literate-primary school	25.08±6.85	0.054	30.32±5.97	0.482	17.32±4.31	0.297
Middle school-high school	26.31±6.05		31.28±7.15		17.63±4.33	
College-University	23.77±7.22		30.21±6.59		16.54±4.25	
Working status of the mother						
Working	24.54±6.61	0.139	32.11±5.66	0.012	16.61±4.00	0.054
Not working	25.81±6.62		29.95±7.06		17.68±4.44	
Dating at the time of the study						
Dating	26.72±5.89	0.006	30.87±7.12	0.788	17.87±4.52	0.072
Not dating	24.41±6.96		30.64±6.34		16.89±4.13	
Prior sexual intercourse						
Yes	23.82±6.13	0.197	29.68±6.06	0.376	15.39±4.53	0.013
No	25.54±6.68		30.86±6.73		17.52±4.23	
Desiring to have children in the future						
Yes	25.48±6.73	0.287	30.63±6.73	0.390	17.27±4.37	0.762
No	23.79±5.17		32.00±5.70		17.58±3.49	

Note: Data presented as mean ± SD; Independent-samples T-test or on-way ANOVA; TRY: Turkish Lira

about childbearing and having children are not affected by some characteristics such as family type, the place where most of their life is spent, parent education and past sexual experience.[24,25] In other studies, it is stated that similar socio-demographic characteristics are determinative in the formation of young nulliparous women's thoughts on childbearing and having children.[26,27] This is thought to be due to the socio-demographic and cultural characteristics of the groups of subjects in the studies.

In our study, the mean score of the sub-dimension of seeing having children as an obstacle was higher in students whose mothers were employed than in students whose mothers were not employed. Hickman et al.[10] reported that the desire to have a good financial status affected women's childbearing decisions. In another study, having a stable financial situation and good living conditions were also found to be effective in childbearing decisions.[28] Considering the care costs of newborn babies, the economic burden of raising children in Turkey, where social policies are inadequate in this regard, may cause individuals with low income levels to postpone their future plans for childbearing and parenthood. Inadequate social policies and financial resources to cover the cost of childcare, such as childcare services and low wages, make it difficult for women to balance work and family duties. This is another reason for the decline in childbearing.[29] It is highlighted that having a good financial status, easy access to childcare, and having a job that can be done while raising children are all important in childbearing decisions.[10,20,30,31] The university students in our sample have not yet completed their education and therefore do not have a regular income, which is indeed very important in childbearing and parenting decisions.

In our study, students with siblings scored higher in the future importance of childbearing and the female identity subscales and those grown up in single-parent families scored higher in the female identity subscale. In similar studies it was determined that having siblings affects attitudes towards having children and childbearing in the future [30,32] while in some studies no relationship was found.[16,20] Considering the finding that 77.2% of our students had extended families, those who are not a single child may have more positive attitudes towards fertility and childbearing regarding the spiritual influence and social support of having siblings. Besides, since having children means gaining status, respect, and social maturity for women in Turkey, it is understood that students with siblings attach more importance to fertility and childbearing with regards to their female identity. Students who grow up in single-parent families might see it as an advantage to have an extended family and have more children for their female identity.

In our study, the mean scores of female identity subscale scores of students who had not had prior sexual intercourse were higher than those of students who were not sexually active. In addition female students who were dating at the time of the study had higher scores from the future importance of the childbearing subscale. Chan et al.[9] reported that having a stable partner to share responsibilities with is crucial in childbearing decisions. Söderberg et al.[18] found that women with a partner had more positive attitudes in the future importance of childbearing and female identity subscales. In many studies, it was also reported that engaged and married female students had more positive attitudes towards parenthood and childbearing,[19] and that not finding the right partner,[9] having a partner with common characteristics,[28] having a stable relationship, and sharing responsibilities with the partner, were important in the decision to become a parent.[9] This finding was seen as a natural consequence of the dating female university students tending to marriage and dreaming of having children in the future. It was also found that students who had prior sexual intercourse had higher scores in the female identity subscale. This suggests that female university students are aware of the responsibilities of childbearing and

that they perceive motherhood and childbearing as important. In our study, 89.2% of the students stated that they had not had prior sexual intercourse. In the study, the term sexual intercourse refers to penile-vaginal penetration. In Turkish society, it is not welcomed for women to have sexual intercourse prior to marriage and it is important to protect virginity. For this reason, although the personal information of the students included in the study was not questioned, their concerns about labeling, exclusion and confidentiality of data may have caused the girls who had previously had sexual intercourse to not answer this question correctly. In fact, it is thought that the number of female students who have had prior sexual intercourse is higher in the sample. There are limitations in this study. The first is that the data is based on self-report. Secondly, since our study is cross-sectional, from our results a causal relationship cannot be inferred. It is suggested that the scale use nulliparous women, older individuals, and different populations.

CONCLUSION

This study demonstrated that female students have a positive attitude towards childbearing and having children. However, the female students participating in the study currently consider having a child as an obstacle in terms of self-realization and career planning. In the future, it can be recommended to conduct a cohort study with female university students and including male students from different regions.

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The authors declare no conflicts of interest associated with this article.

AUTHOR CONTRIBUTIONS

DYK and RHA contributed to writing the manuscript, DYK contributed to design and data collection. RHA and DYK contributed to analyzing the data. NBD contributed to revising the manuscript. All authors have read and approved the final manuscript.

REFERENCES

1. United Nations Department of Economic and Social Affairs Population Division. World fertility and family planning 2020: highlights. New York: United Nations Department of Economic and Social Affairs Population Division; 2020.
2. Hacettepe University Population Studies Institute. Turkey demographic and health survey 2017. Ankara: Hacettepe University; 2018. Turkish.
3. United Nations Department of Economic and Social Affairs Population Division. World population prospects: the 2012 revision: highlights and advance tables. New York: United Nations Department of Economic and Social Affairs Population Division; 2013.
4. Pedro J, Brandão T, Schmidt L, Costa ME, Martins MV. What do people know about fertility? A systematic review on fertility awareness and its associated factors. Ups J Med Sci 2018;123:71-81. doi: 10.1080/03009734.2018.1480186.
5. Budgeon S. Individualized femininity and feminist politics of choice. European J Women's Studies 2015;22:303-18. https://doi.org/10.1177/135050681557660.
6. Mills M, Rindfuss RR, McDonald P, Te Velde E. Why do people postpone parenthood? Reasons and social policy incentives. Hum Reprod Update 2011;17:848-60. doi: 10.1093/humupd/dmr026.
7. Delbaere I, Verbiest S, Tydén T. Knowledge about the impact of age on fertility: a brief review. Ups J Med Sci 2020;125:167-174. doi: 10.1080/03009734.2019.1707913.
8. Söderberg M, Lundgren I, Christensson K, Hildingsson I. Attitudes toward fertility and

childbearing scale: an assessment of a new instrument for women who are not yet mothers in Sweden. BMC Pregnancy Childbirth 2013;13:197. https://doi.org/10.1186/1471-2393-13-197.
9. Chan CHY, Chan THY, Peterson BD, Lampic C, Tam MYJ. Intentions and attitudes towards parenthood and fertility awareness among Chinese university students in Hong Kong: a comparison with Western samples. Hum Reprod 2015;30:364-72. doi: 10.1093/humrep/deu324.
10. Hickman LC, Fortin C, Goodman L, Liu X, Flyckt R. Fertility and fertility preservation: knowledge, awareness and attitudes of female graduate students. Eur J Contracept Reprod Health Care 2018;23:130-8. doi: 10.1080/13625187.2018.1455085.
11. Myrskylä M, Margolis R. Happiness: before and after the kids. Demography 2014;51:1843-66. doi: 10.1007/s13524-014-0321-x.
12. Sørensen NO, Marcussen S, Backhausen MG, et al. Fertility awareness and attitudes towards parenthood among Danish university college students. Reprod Health 2016;13:146. doi: 10.1186/s12978-016-0258-1.
13. Garcia D, Brazal S, Rodriguez A, Prat A, Vassena R. Knowledge of age-related fertility decline in women: a systematic review. Eur J Obstet Gynecol Reprod Biol 2018;230:109-18. doi: 10.1016/j.ejogrb.2018.09.030.
14. Arslan S, Okcu G, Coþkun A, Temiz F. Women's perception of pregnancy and the affecting factors. HSP 2019;6:179-92. doi: 10.17681/hsp.432333.
15. Gemicioðlu S, Þahin H, Emrah ER. Türkiye'de Doðurganlýk Analizi: Gelecekteki Doðurganlýk Tercihlerinin Önemi. Sosyoekonomi 2019;27:223-34.
16. Aşci Ö, Gökdemir F, Altuntaş G. Views of nursing students regarding having children and their status of liking children. Int Refer J Nurs Res 2017;10:18-35. doi: 10.17371/UHD2017.2.02.
17. Tydén T, Svanberg AS, Karlström PO, Lihoff L, Lampic C. Female university students' attitudes to future motherhood and their understanding about fertility. Eur J Contracept Reprod Health Care 2006;11:181-9. doi: 10.1080/13625180600557803.
18. Akoku DA, Achombwom Vukugah T, Abena Tihnje M, Bigweh Nzubepie I. Childbearing intentions, fertility awareness knowledge and contraceptive use among female university students in Cameroon. PLoS ONE 2022;17:e0276270. https://doi.org/10.1371/journal.pone.0276270.
19. Damar E. The validity and reliability study of the Turkish version of the attitudes toward fertility and childbearing scale (AFCS). Manisa Celal Bayar University. 2019.
20. Söderberg M, Christensson K, Lundgren I, Hildingsson I. Women's attitudes towards fertility and childbearing–A study based on a national sample of Swedish women validating the attitudes to fertility and childbearing cale (AFCS). Sex Reprod Healthc 2018;6:54-8. doi: 10.1016/j.srhc.2015.01.002.
21. Prior E, Lew R, Hammarberg K, Johnson L. Fertility facts, figures and future plans: an online survey of university students. Hum Fertil (Cam) 2018;22:283-90. doi:10.1080/14647273.2018.1482569.
22. Stevenson EL, Gispanski L, Fields K, Cappadora M, Hurt M. Knowledge and decision making about future fertility and oocyte cryopreservation among young women. Hum Fertil (Cam) 2021;24:112-21. https://doi.org/10.1080/14647273.2018.1546411.
23. Alfaraj S, Aleraij S, Morad S, et al. Fertility awareness, intentions concerning childbearing, and attitudes toward parenthood among female health professions students in Saudi Arabia. Int J Health Sci (Qassim) 2019;13:34.
24. Asci O, Gökdemir F. Adaptation of attitudes toward fertility and childbearing scale to Turkish. Kocaeli Med J 2021;10:194-205. doi: 10.5505/ktd.2021.48902.
25. Pimal N, Gürsoy E. Üniversite Öðrencilerinin Gelecekte Çocuk Sahibi Olmaya Ýliþkin Düþünceleri ve Etkileyen Faktörler. Dokuz Eylül Üniversitesi Hemþirelik Fakültesi Elektronik Dergisi 2020;13:148-59. https://doi.org/10.46483/deuhfed.675721.
26. Koçyiðit OT. Ýnfertilite ve sosyo-kültürel etkileri. Ýnsanbilim dergisi 2012;1:27-37.
27. Kostak MA. Hemþirelik ve ebelik öðrencilerinin çocuk sevme durumlari, çocuk saðliði ve hastaliklari hemþireliði dersinin çocuk sevme durumlarina etkisi ve etkileyen faktörler. Cumhuriyet Hemþirelik Dergisi 2013;2:50-6.
28. Eriksson C, Larsson M, Tydén T. Reflections on having children in the future—interviews with highly educated women and men without children. Upsala J Med Sci 2012;117:328-35. https://doi.org/10.3109/03009734.2012.654862.
29. Ciritel AA, De Rose A, Arezzo MF. Childbearing intentions in a low fertility context: the case of Romania. Genus 2019;75:1-25. doi: 10.1186/s41118-018-0046-6.
30. Hurley EG, Ressler IB, Young S, et al. Postponing childbearing and fertility preservation in young

professional women. South Med J 2018;111:187-91. doi: 10.14423/SMJ.0000000000000789.

31. Williamson LE, Lawson KL, Downe PJ, Pierson RA. Informed reproductive decision-making: the impact of providing fertility information on fertility knowledge and intentions to delay childbearing. J Obstet Gynaecol Canada 2014;36:400-5. https://doi.org/10.1016/S1701-2163(15)30585-5.

32. Bektas M, Ayar D, Bektas Ý, Selekoglu Y, Kudubes A, Altan S. Determining the factors that influence nursing students' affection for children. J Pediatr Res 2015;2:37-41. doi: 10.4274/jpr.47966.