Mediterranean Nursing and Midwifery

Mediterr Nurs Midwifery 2025; 5(1): 84-93 DOI: 10.4274/MNM.2024.24222

ORIGINAL ARTICLE

# The Relationship Between Gender Perception, Fertility Awareness, and Reproductive Coercion in Fertile Women

## Doğurgan Çağdaki Kadınlarda Toplumsal Cinsiyet Algısı, Fertilite Farkındalığı ve Üreme Baskısı İlişkisi

Ebru Cirban Ekrem, İlayda Yıldırım, Gizem Mutlu, Nisa Ün, Sümeyra Karadeniz

Department of Nursing, Bartın University Faculty of Health Sciences, Bartın, Turkey

**Abstract**

**Objective:** This study aimed to determine the relationship between gender perception, fertility awareness, and reproductive pressure in women of reproductive age.

**Method:** This cross-sectional study included women of reproductive age in Turkey. There are 22 million women between the ages of 18 and 49 living in Turkey. According to the sampling method with a known universe, 385 samples were obtained. The research was completed in 412 women. The data were collected with the "descriptive information form", "perception gender scale (PGS)", "fertility awareness scale (FAS)", "reproductive coercion scale (RCS)".

**Results:** Women's PGS mean score is 104.40±14.64, their FAS mean score is 64.67±12.83, and their RCS mean score is 0.08±0.36. Between PGS and FAS, highly significant, positive, weak (r=0.206, p=0.000); between PGS and RCS, highly significant, negative, very weak (r=-0.193, p=0.000); and between FAS and RCS, a significant, negative, very weak (r=-0.082, p=0.048) relationship was found.

**Conclusion:** Women's gender perceptions were high, fertility awareness was moderate, and reproductive pressures were low. It was determined that as gender perception increased, fertility awareness increased, and reproductive pressure decreased.

**Keywords:** Fertile age, fertility, awareness, women, gender, reproductive pressure

**Öz**

**Amaç:** Çalışmada, doğurgan çağdaki kadınların toplumsal cinsiyet algısı, fertilite farkındalığı ve üreme baskısı arasındaki ilişkinin belirlenmesi amaçlandı.

**Yöntem:** Kesitsel tipteki araştırmanın evrenini Türkiye'deki doğurgan çağdaki kadınlar oluşturdu. Türkiye'de 18-49 yaş arası 22 milyon kadın yaşamaktadır. Evreni bilinen örnekleme yöntemine göre örneklem sayısı 385 bulundu. Araştırma 412 kadınla tamamlandı. Veriler "tanıtıcı bilgi formu", "fertilite farkındalık ölçeği (FFÖ)", "toplumsal cinsiyet algısı ölçeği (TCAÖ)", "üreme baskısı ölçeği (ÜBÖ)" ile toplandı.

**Bulgular:** Kadınların TCAÖ puan ortalaması 104,40±14,64, FFÖ puan ortalaması 64,67±12,83 ve ÜBÖ puan ortalaması 0,08±0,36'dır. TCAÖ ile FFÖ arasında ileri derecede anlamlı, pozitif yönde ve zayıf (r=0,206, p=0,000), TCAÖ ile ÜBÖ arasında ileri derecede anlamlı, negatif yönde ve çok zayıf (r=-0,193, p=0,000), FFÖ ile ÜBÖ arasında anlamlı, negatif yönde ve çok zayıf (r=-0,082, p=0,048) bir ilişki saptandı.

**Sonuç:** Kadınların toplumsal cinsiyet algıları yüksek, fertilite farkındalıkları orta ve üreme baskıları düşük düzeydeydi. Toplumsal cinsiyet algısının artmasıyla fertilite farkındalığının arttığı, üreme baskısının azaldığı belirlendi.

**Anahtar Kelimeler:** Doğurgan çağ, fertilite, farkındalık, kadın, toplumsal cinsiyet, üreme baskısı

## Introduction

In societies, certain roles are attributed to genders based on cultural characteristics. As a result, being a woman or a man goes beyond being a biological feature. Gender roles encompass traditional societal norms that dictate the recognized behavioral expectations and responsibilities assigned to individuals based on gender. According to gender roles, women are perceived to occupy lower

**Corresponding Author:**
Ebru Cirban Ekrem, cirban.ebru@gmail.com

**Cite this article as:** Cirban Ekrem E, Yıldırım İ, Mutlu G, Ün N, Karadeniz S. The relationship between gender perception, fertility awareness, and reproductive coercion in fertile women. Mediterr Nurs Midwifery. 2025; 5(1): 84-93

**Received:** March 23, 2024
**Accepted:** October 14, 2024
**Epub:** February 24, 2025
**Publication Date:** April 21, 2025

Copyright© 2025 The Author. Published by Galenos Publishing House on behalf of Turkish Cypriot Nurses and Midwives Association.
Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

positions than men in social, cultural, political, and economic domains. Consequently, social gender roles have given rise to the concept of gender inequality. In the context of gender perceptions, men are often perceived as powerful decision-makers, whereas women are perceived as dependent and passive individuals in relation to men (1,2). The Global Gender Gap Report (2023) highlights that addressing gender inequality will take 131 years. Turkey ranks relatively low (129/146) compared with the global average in the same report, indicating the need for improvement in this area (3).

The negative impact of gender roles on women's health is evident in various areas, with fertility being one of the foremost affected aspects (4). The most crucial purpose for individuals to continue their lives is to ensure the continuity of their lineage through reproductive function (2,5). Fertility refers to the ability to conceive and reproduce (6). According to social perceptions in many countries, including Turkey, fertility is seen as women's ability to bear children and men's ability to impregnate. In this regard, the concept of "fertility awareness" comes to the forefront. It has been observed that this awareness plays a significant role in promoting healthy lifestyle behaviors and preserving reproductive health (5,7). The sustainability of fertility depends on access to reproductive health services and fertility awareness (8). Fertility awareness helps eliminate the risk of developing health problems that may negatively impact maternal and neonatal mortality and morbidity, such as unwanted pregnancies, abortions, miscarriages, premature births, and low birth weight infants (7). However, the concept of gender inequality resulting from gender perceptions may lead to discrimination against women during the uptake of health services (9). Therefore, the World Health Organization recommends the establishment of fertility awareness among individuals (7).

Women's ability to make autonomous decisions about fertility is influenced by national policies, gender roles, and partners' attitudes. In this context, one of the negative factors that women perceive about fertility is reproductive coercion, which can manifest as being forced into pregnancy against one's will, interference in birth control decisions, or the termination of existing pregnancies (7,10). It is also defined as a form of violence and abuse (11). Women facing this type of pressure generally have lower social status and decision-making autonomy (7,10). Moreover, many women experiencing reproductive pressure also endure physical or sexual violence. Reproductive coercion indirectly leads to the denial of access to and utilization of family planning methods and results in adverse sexual and reproductive health outcomes, such as early pregnancies, unwanted pregnancies, miscarriages, and sexually transmitted infections (12,13). Furthermore, these adversities often invalidate women's sexual rights, reproductive rights, and autonomy (14). The convention on the elimination of all forms of discrimination against women, which has been accepted to eliminate gender discrimination, emphasizes the autonomy of reproductive rights. The convention advocates for equal decision-making on reproductive matters for everyone, regardless of gender (15). However, reproductive coercion undermines this equality (7,10). As reproductive coercion is a developing topic, more research is recommended to identify the factors influencing it (11,16). To the best of our knowledge, no research has examined the relationship between gender perception, fertility awareness, and reproductive coercion. This study aims to investigate this relationship. The research questions are as follows:

Q1: What is the gender perception of women of reproductive age?

Q2: What is the fertility awareness level of women of childbearing age?

Q3: What are the reproductive pressure levels among women of childbearing age?

Q4: Is there a relationship between gender perception, fertility awareness, and reproductive pressure in women of reproductive age?

**Main Points**

- Gender roles, fertility awareness, and reproductive pressure are important concepts in women of reproductive age.
- Women had high gender perceptions, moderate fertility awareness, and low reproductive pressures.
- It was determined that as gender perception increased, fertility awareness increased, and reproductive pressure decreased.
- It has been determined that single people, those with postgraduate education, those whose spouses have postgraduate education, those who have been married for 1-5 years, and those who do not use regular family planning methods have more positive gender perceptions than others.
- Fertility awareness was found to be higher among those who were married, had a postgraduate education, had a spouse with a bachelor's degree, had a spouse working in the service sector, had an income greater than their expenses, and lived in the Southeastern Anatolia Region.
- The level of reproductive pressure is higher among those who have primary and secondary education, those whose spouses have primary or secondary education, and those whose spouses are not working.

## Material and Method

### Study Design and Sample

The research is a cross-sectional and descriptive study that explores the relationships between variables. The study population consisted of women of reproductive age (18-49 years) living in Turkey. According to the latest data from the Turkish Statistical Institute in 2021, there are 22 million women in the age range of 18-49 years in Turkey (17). The sample size of the study was calculated as 385 using the known population sampling method, with an acceptable error of 5% and a confidence interval of 95%, assuming a proportion of p=q=0.5. The inclusion criteria for the study were as follows: (1) female, (2) aged 18-49 years, (3) literate, (4) willing to participate in the study, (5) using an Android mobile phone, (6) having Internet access, (7) not being pregnant, (8) not having received a menopause diagnosis, and (9) not having any physical or mental disabilities. The

study was conducted online between December 2022 and March 2023 covering the entire geographical area of Turkey.

### Data Collection Instruments

Data were collected using a questionnaire consisting of four sections. The sections consisted of the demographic information form, the perception of gender scale (PGS), the fertility awareness scale (FAS), and the reproductive coercion scale (RCS).

**Demographic information form:** This form, developed by the researchers in line with the literature, consists of 17 questions to determine the demographic characteristics (age, education level, marital status, spouse's education level, occupation, income level, region of residence, etc.) and obstetric characteristics (number of pregnancies, miscarriages, births, number of living children, etc.) of the participants (1,7,16).

**PGS:** The PGS was developed by Altınova and Duyan (1) to measure individuals' gender perceptions and consists of 25 items under one factor. Of the items, 10 were positively stated and 15 were negatively worded. Items 2, 4, 6, 9, 10, 12, 15, 16, 17, 18, 19, 20, 21, 24, and 25 are negatively worded and reverse-coded. The scale items were rated on a five-point Likert scale, ranging from "strongly agree (5)" to "strongly disagree (1)". The lowest possible score on the scale is 25, and the highest score is 125, with higher scores indicating a more positive perception of gender roles. The Cronbach's alpha of the original scale was 0.87 (1). In this study, the Cronbach's alpha of the scale was calculated as 0.91.

**FAS:** The FAS, developed by Özşahin and Derya (7), is a five-point Likert-type scale comprising 19 items grouped under two factors. The physical awareness subdimension comprises items 7, 9, 10, 11, 12, 13, 15, 17, 18, and 19. Meanwhile, the cognitive awareness subdimension comprises items 1, 2, 3, 4, 5, 6, 8, 14, and 16. The scale does not include reverse-scored items. The scale items were rated on a five-point Likert scale, ranging from "Always (5)" to "Never (1)". The lowest possible FAS score was 19, and the highest score was 95. For the physical awareness subdimension, the lowest score was 10, and the highest score was 50. For the cognitive awareness subdimension, the lowest score was 9, and the highest score was 45. A high FAS total score indicates a high level of fertility awareness. Scores between 19 and 43 indicate low awareness, 44 and 69 indicate moderate awareness, and 70 and 95 indicate high awareness. The Cronbach's alpha of the original scale is 0.88 (7). In this study, the Cronbach's alpha of the scale was calculated as 0.85.

**RCS:** The RCS, first developed by McCauley et al. (16), was developed by Öztürk and Güner (15) and consists of nine items. A shorter form with five items was created by McCauley et al. (16) to facilitate its use. The scale assesses the reproductive coercion experienced by individuals from their partners in the past three months, including subdimensions such as pregnancy pressure and condom manipulation. The Turkish version of the scale includes five items under one factor. Each item was rated on a binary Likert-type scale, with responses of "Yes (1)" and "No (0)". The Cronbach's alpha for the Turkish version of the scale is 0.72 (16). In this study, the Cronbach's alpha of the scale was calculated as 0.491.

### Data Collection

The data were collected online using the snowball sampling method. In snowball sampling, initial contact is made with one unit from the population, which helps reach a third unit. In this way, the sample size expands, similar to the growth of a snowball. Initially, researchers aim to reach participants in their immediate social circles and then extend the reach to the social circles of these participants. The data collection form for the study was distributed through various online platforms (WhatsApp, Twitter, Instagram, Facebook, e-mail, etc.). The participants completed the survey form using self-reporting in approximately 10 minutes.

### Statistical Analysis

The statistical analysis of the data obtained from the study was conducted using IBM SPSS 22.0 (Statistical Package for the Social Sciences for Windows). The results were analyzed at a significance level of 5.0% with a confidence interval of 95.0%. Descriptive statistics such as numbers, percentages, means, and standard deviations were used for data analysis. The normality of the data distribution was assessed using the Kolmogorov-Smirnov test, which indicated that the data did not follow a normal distribution. Therefore, non-parametric tests, specifically the Mann-Whitney U test and Kruskal-Wallis analysis, were employed for data comparisons. To determine the relationship between the PGS, FAS, and RCS, Spearman's correlation analysis was used.

### Ethical Considerations

The authors obtained ethical approval from the Bartın University's Ethics Committee (date: 14.11.2022, protocol no: 2022-SBB-0494). Informed consent was obtained from the participants, ensuring their voluntary participation in the study.

## Results

The mean age of the participants was determined to be 31.61±8.96 years. Additionally, the study found that the participants had an average of 1.87±1.34 pregnancies, 1.57±1.03 childbirths, 1.62±1.54 children, and 0.39±0.83 miscarriages. Moreover, the average age at which they became first-time mothers was 26.42±4.25 years. It was found that 58.5% of the participants were married, 54.1% had a bachelor's degree, 50.7% were not employed, and 42.7% worked in the service sector. Among the married participants, 41.9% had a bachelor's degree, 97.1% were employed, and 63.1% worked in the service sector. Furthermore, 25.3% of the participants had been married for 1-5 years, 53.9% had income equal to their expenses, 28.2% lived in the Central Anatolia Region, and 52.2% did not use any regular family planning method (Table 1).

***Table 1.***
***Socio-demographic and Obstetrics Characteristics of the Participants (n=412)***

| Variables | $\bar{X}$ | SD |
|---|---|---|
| Age (min: 18, max: 49) | 31.61 | 8.96 |
| Number of pregnancies (min: 0, max: 7) | 1.87 | 1.34 |
| Number of births (min: 0, max: 6) | 1.57 | 1.03 |
| Number of children (min: 0, max: 5) | 1.62 | 1.54 |
| Number of miscarriages (min: 0, max: 8) | 0.39 | 0.83 |
| Age at first birth (min: 17, max: 39) | 26.42 | 4.25 |
| | n | % |
| **Marital status** | | |
| Married | 241 | 58.5 |
| Single | 171 | 41.5 |
| **Education status** | | |
| Elementary school | 17 | 4.1 |
| High school | 71 | 17.2 |
| Associate degree | 55 | 13.3 |
| Bachelor's degree | 223 | 54.2 |
| Postgraduate | 46 | 11.2 |
| **Working status** | | |
| Not employed | 209 | 50.7 |
| Employed | 203 | 49.3 |
| Working sector | | |
| Housewife<br>Service (education, health, banking, trade, transport, accounting, etc.)<br>Self-employment | 209<br>176<br>18 | 50.7<br>42.7<br>4.4 |
| Industry (machine, building, iron and steel etc.) | 9 | 2.2 |
| **Spouses' educational status (n=241)** | | |
| Elementary school | 14 | 5.8 |
| High school | 55 | 22.8 |
| Associatedegree | 36 | 14.9 |
| Bachelor's degree | 101 | 42.0 |
| Postgraduate | 35 | 14.5 |
| **Spouses' working status (n=241)** | | |
| Not employed | 234 | 97.1 |
| Employed | 7 | 2.9 |
| **Spouses' working sector (n=241)** | | |
| Service (education, health, banking, trade, transport, accounting, etc.) | 152 | 63.1 |
| Industry (machine, building, iron and steel etc.) | 39 | 16.2 |
| Self-employment | 36 | 14.9 |
| Not working | 7 | 2.9 |
| Agriculture (livestock, forestry, mining, etc.) | 7 | 2.9 |
| **Duration of marriage** | | |
| 20 years and above | 43 | 17.8 |
| 16-20 year | 44 | 18.3 |
| 11-15 year | 48 | 19.9 |
| 6-10 year | 32 | 13.3 |
| 1-5 year | 61 | 25.3 |
| 1 year | 13 | 5.4 |
| **Perceptions of monthly income and expenses** | | |
| Income less than expenses | 124 | 30.1 |
| Income equals expenses | 222 | 53.9 |
| Income more than expenses | 66 | 16.0 |
| **Living area** | | |
| Central Anatolia | 116 | 28.2 |
| The Black Sea Region | 113 | 27.4 |
| Marmara Region | 106 | 25.7 |
| The Southeastern Anatolia Region | 23 | 5.6 |
| The Eastern Anatolia Region | 19 | 4.6 |
| Aegean Region | 18 | 4.4 |
| Mediterranean Region | 17 | 4.1 |
| **Family planning method used regularly** | | |
| We do not use | 215 | 52.2 |
| Condom | 97 | 23.5 |
| Traditional methods such as the retraction and calendar method | 51 | 12.4 |
| Intrauterine device | 33 | 8.0 |
| Oral contraceptive | 16 | 3.9 |

*SD=Standard deviation*

The mean PGS, FAS, and RCS scores are presented in Table 2. The mean PGS score of the participants was 104.40±14.64, indicating a high level of gender role perceptions. The mean FAS score of the participants was 64.67±12.83, suggesting a moderate level of fertility awareness. The mean scores of the participants on the subdimensions of the FAS were 37.18±7.45 for physical awareness and 27.48±6.67 for cognitive awareness. The mean RCS score of the participants was 0.08±0.36, indicating a significantly low level of reproductive coercion (Table 2).

The PGS, FAS, and RCS scores of participants with certain socio-demographic characteristics are compared in Table 3. It was determined that unmarried individuals, those with postgraduate education, those whose spouses had postgraduate education, those married for 1-5 years, and those not using regular family planning methods had more favorable gender role perceptions than others ($p<0.05$). Moreover, married participants, those with postgraduate

education, those whose spouses had a bachelor's degree, those whose spouses worked in the service sector, those with income exceeding expenses, and those living in the Southeast Anatolia Region demonstrated higher levels of fertility awareness than others (p<0.05). On the other hand, the participants with primary and secondary education, those whose spouses had primary and secondary education, and those whose spouses were not employed were found to have higher levels of reproductive coercion compared to others (p<0.05) (Table 3).

***Table 2.***
***Mean PGS, FAS, and RCS Scores of the Participants (n=412)***

| **Scales** | **Score received** | | **Scale Min-max value** |
|---|---|---|---|
| | **$\bar{X}$ ± SD** | **Min-max value** | |
| **Total PGS score** | 104.40±14.64 | 47-125 | 25-125 |
| **Total FAS score** | 64.67±12.83 | 19-95 | 19-95 |
| Physical awareness subdimension total score | 37.18±7.45 | 10-50 | 10-50 |
| Cognitive awareness subdimension total score | 27.48±6.67 | 9-45 | 9-45 |
| **Total RCS score** | 0.08±0.36 | 0-3 | 0-5 |

*SD=Standard deviation, PGS=perception gender scale, FAS=fertility awareness scale, RCS=reproductive coercion scale*

***Table 3.***
***Comparison of the Mean Scores of the PGS, FAS, and RCS with Certain Socio-demographic and Obstetrics Characteristics***

| **Variables** | | **PGS** | **FAS** | **RCS Mean rank** |
|---|---|---|---|---|
| | | **Mean rank** | **Mean rank** | |
| **Marital status*** | Single | 254.24 | 187.53 | 202.58 |
| | Married | 172.62 | 219.96 | 209.28 |
| | | U=12441.500 **p=0.000** | U=17362.000 **p=0.006** | U=19936.000 p=0.174 |
| **Education status**** | Elementary school | 147.56 | 208.00 | 231.00 |
| | High school | 160.19 | 172.09 | 225.62 |
| | Associate degree | 189.76 | 204.35 | 201.55 |
| | Bachelor's degree | 213.57 | 208.75 | 202.34 |
| | Postgraduate | 285.49 | 250.74 | 194.00 |
| | | KW=37.043 **p=0.000** | KW=12.386 **p=0.015** | KW=20.004 **p=0.000** |
| **Working status*** | Not employed | 212.63 | 214.33 | 202.13 |
| | Employed | 200.55 | 198.89 | 210.74 |
| | | U=19970.000 p=0.303 | U=19623.500 p=0.188 | U=20326.500 p=0.076 |
| **Working sector**** | Housewife | 200.55 | 198.89 | 210.74 |
| | Service (education, health, banking, trade, transport, accounting, etc.) | 164.22 | 204.17 | 194.00 |
| | Self-employment | 229.56 | 197.00 | 205.22 |
| | Industry (machine, building, iron and steel etc.) | 213.56 | 216.63 | 202.23 |
| | | KW=2.919 p=0.404 | KW=2.245 p=0.523 | KW=3.465 p=0.325 |

***Table 3.***
***Continued***

| Variables | | PGS<br>Mean rank | FAS<br>Mean rank | RCS<br>Mean rank |
|---|---|---|---|---|
| **Spouses' educational status** | Elementary school | 103.86 | 127.79 | 146.50 |
| | High school | 88.85 | 87.55 | 127.57 |
| | Associate degree | 118.31 | 128.74 | 115.29 |
| | Bachelor's degree | 132.91 | 132.88 | 119.04 |
| | Postgraduate | 146.79<br>KW=20.351 | 128.61<br>KW=16.607 | 112.00<br>KW=15.738 |
| | | **p=0.000** | **p=0.002** | **p=0.003** |
| **Spouses' working status*** | Not employed | 121.35 | 121.24 | 120.22 |
| | Employed | 109.29 | 113.07 | 147.14 |
| | | U=737.000<br>p=0.652 | U=763.500<br>p=0.760 | U=636.000<br>**p=0.027** |
| **Spouses' working sector** | Service (education, health, banking, trade, transport, accounting, etc.) | 128.10 | 132.09 | 118.24 |
| | Industry (machine, building, iron and steel etc.) | 120.54 | 99.97 | 124.38 |
| | Self-employment | 94.39 | 97.36 | 125.67 |
| | Not working | 109.29 | 113.07 | 147.14 |
| | Agriculture (livestock, forestry, mining, etc.) | 118.07 | 126.79 | 112.00 |
| | | KW=7.036<br>p=0.134 | KW=11.683<br>**p=0.020** | KW=7.675<br>p=0.104 |
| **Duration of marriage** | 1 year | 141.27 | 133.65 | 112.00 |
| | 1-5 year | 146.91 | 122.36 | 119.92 |
| | 6-10 year | 114.13 | 115.45 | 123.11 |
| | 11-15 year | 125.33 | 109.41 | 116.94 |
| | 16-20 year | 97.65 | 121.48 | 125.67 |
| | 20 years and above | 102.29 | 131.83 | 123.44 |
| | | KW=18.067<br>**p=0.003** | KW=3.023<br>p=0.696 | KW=3.247<br>p=0.662 |
| **Perception of monthly income and expenses** | Income less than expenses | 213.75 | 178.29 | 207.34 |
| | Income equals expenses | 199.38 | 216.78 | 206.91 |
| | Income more than expenses | 216.83 | 224.92 | 203.53 |
| | | KW=1.752<br>p=0.417 | KW=10.200<br>**p=0.006** | KW=0.292<br>p=0.864 |
| **Living area**** | The Black Sea Region | 199.50 | 202.14 | 210.53 |
| | Marmara Region | 217.07 | 220.60 | 205.54 |
| | Aegean Region | 207.47 | 138.00 | 205.22 |
| | Mediterranean Region | 264.50 | 214.32 | 194.00 |
| | Central Anatolia | 197.87 | 198.30 | 204.55 |
| | The Eastern Anatolia Region | 169.79 | 180.63 | 205.24 |
| | The Southeastern Anatolia Region | 222.41 | 273.50 | 212.24 |
| | | KW=8.091<br>p=0.232 | KW=16.406<br>**p=0.012** | KW=2.410<br>p=0.878 |

***Table 3.***
***Continued***

| Variables | | PGS<br>Mean rank | FAS<br>Mean rank | RCS<br>Mean rank |
|---|---|---|---|---|
| **Family planning method used regularly** | Non-users | 222.94 | 195.56 | 203.70 |
| | Condom | 220.25 | 237.23 | 202.33 |
| | Intrauterine device | 143.26 | 200.33 | 225.30 |
| | Oral contraceptive | 180.59 | 209.47 | 206.63 |
| | Traditional methods such as the retraction and calendar method | 160.08 | 197.22 | 214.03 |
| | | KW=23.226<br>**p=0.000** | KW=8.689<br>p=0.069 | KW=7.389<br>p=0.117 |

**=Mann-Whitney U test, **=Kruskal-Wallis test, PGS=perception gender scale, FAS=fertility awareness scale, RCS=reproductive coercion scale*

When the relationships between participants' PGS, FAS, and RCS scores and certain variables were examined, it was found that there was a significant, negative, and weak relationship between the age of participants and their PGS score (r=-0.305, p=0.000). Additionally, a significant, weak, positive relationship was found between the age of the participants and their FAS score (r=0.137, p=0.003). Furthermore, a significant, very weak, positive relationship was observed between the age of the participants and their RCS score (r=0.083, p=0.047). A significant, strong, negative relationship was found between the number of pregnancies of the participants and the PGS score (r=-0.346, p=0.000). Similarly, there was a significant, very weak, positive relationship between the number of pregnancies and the RCS score (r=0.133, p=0.020). A significant, strong, negative relationship was found between the number of childbirths and the PGS score (r=-0.417, p=0.000). Similarly, a significant, very weak, positive relationship was observed between the number of childbirths and the RCS score (r=0.171, p=0.004). Additionally, a significant, weak, positive relationship was found between the number of children and the PGS score (r=-0.433, p=0.000), and a significant, very weak, positive relationship was observed between the number of children and the RCS score (r=0.133, p=0.020). Lastly, a significant, very weak, positive relationship was found between the number of miscarriages and the RCS score (r=0.157, p=0.008). A significant, weak, positive relationship was observed between the age at which participants became first-time mothers and the PGS score (r=0.251, p=0.000). In terms of intervariable relationships, a significant, weak, positive relationship was found between the PGS and the FAS (r=0.206, p=0.000). Moreover, a significant, negative, very weak relationship was found between the PGS and the RCS (r=-0.193, p=0.000), and a significant, very weak, negative relationship was observed between the FAS and the RCS (r=-0.082, p=0.048) (Table 4).

## Discussion

This research aimed to determine the relationship between gender role perceptions, fertility awareness, and reproductive coercion among women of reproductive age and found that women had high gender role perceptions, moderate fertility awareness, and low levels of reproductive coercion. An increase in women's gender role perceptions was associated with an increase in fertility awareness and a decrease in reproductive coercion. The socio-demographic and obstetric characteristics of the women included in the study (age, number of pregnancies, number of childbirths, age at first-time motherhood, marital status, income status, region of residence, family planning method) were found to be consistent with similar studies in the literature (7,16,18-23). Considering that studies on fertility awareness and reproductive coercion mostly focus on women of reproductive age, the socio-demographic findings are believed to be in line with the literature.

The study revealed that the participants had a high mean total score on the PGS (104.40±14.64). This finding is consistent with previous studies in the literature, where the mean total score on the PGS was reported to be high by Özpulat and Özvarış (20) (101.80±12.23), Üstgörül et al. (24) (111.8±11.4), and Lotfi et al. (25) (112.83±10.96) (20,24,25). The similarity of the participants' gender role perceptions in this study with those in national and international studies demonstrates the generalizability of the PGS scores.

The participants' fertility awareness was determined to be at a moderate level (64.67±12.83). Similar findings on moderate fertility awareness have been reported in studies conducted in Turkey (7,21). A systematic review examining 71 articles also revealed that women had a moderate level of fertility awareness (26). In line with these findings, women with similar socio-demographic characteristics were found to have moderate levels of fertility awareness.

In this study, reproductive coercion was found to be at a low level (0.08±0.36). This finding is similar to the findings of different studies on Turkish women (0.47±0.82; 0.872+1.24) (16,27). However, a study conducted in Nairobi reported that women's reproductive coercion was significantly higher (3.8±3.0) (28). One study conducted in the United States (29) reported that one-third of women, and another study (12) found that approximately 47.1% of women experienced

***Table 4.***
***Relationship Between Participants' Mean Scores on the PGS, FAS, and RCS and Certain Variables***

| Variables | PGS | FAS | RCS |
|---|---|---|---|
| **Age** | r=-0.305**, **p=0.000**** | r=0.137**, **p=0.003**** | r=0.083*, **p=0.047*** |
| **Number of pregnancies** | r=-0.346**, **p=0.000**** | r=0.067, p=0.151 | r=0.133*, **p=0.020*** |
| **Number of births** | r=-0.417**, **p=0.000**** | r=0.031, p=0.317 | r=0.171**, **p=0.004**** |
| **Number of children** | r=-0.433**, **p=0.000**** | r=0.035, p=0.296 | r=0.133*, **p=0.020*** |
| **Number of miscarriages** | r=0.090, p=0.082 | r=0.005, p=0.471 | r=0.157**, **p=0.008**** |
| **Age at first birth** | r=0.251**, **p=0.000**** | r=0.019, p=0.392 | r=0.047, p=0.251 |
| **PGS** | 1.000 | r=0.206**, **p=0.000**** | r=0.193**, **p=0.000**** |
| **FAS** | r=0.206**, **p=0.000**** | 1.000 | r=0.082*, **p=0.048*** |
| **RCS** | r=0.193**, **p=0.000**** | r=0.082*, **p=0.048*** | 1.000 |

*r=Spearman correlation coefficient, *=correlation 0.05 level meaningful, **=correlation 0.01, meaningful*

reproductive coercion during their lifetime. Our findings are considerably positive compared with international studies. This difference may be attributed to the high gender role perceptions of the women in our study, which positively influenced their reproductive autonomy.

It was found that unmarried individuals and those who had postgraduate education for themselves and their partners had more positive gender role perceptions than others. This finding is consistent with that of similar studies (20,22,24,30). Moreover, the participants who had been married for 1-5 years exhibited more positive gender role perceptions. Akpınar and Kırlıoğlu (31) also found an indirect relationship between the duration of marriage and gender role perceptions in their research. In this study, a relationship was established between the use of regular family planning methods and gender-role perceptions. Similar findings have been reported in different studies conducted in Mexico and Tanzania, where strong associations were observed between family planning method use and gender role perceptions (32-34). The emergence of similar findings in different studies conducted in regions dominated by patriarchal systems can be interpreted as an expected result.

The study found that married individuals, those with postgraduate education, those whose spouses had a bachelor's degree, those with income exceeding expenses, and those living in the Southeast Anatolia Region had higher fertility awareness than others. A study conducted by Özşahin and Altıparmak (21) in the eastern region of Turkey also reported that as participants' education and income levels increased, their fertility awareness also increased. Similar findings have been observed in studies conducted in similar populations, whereas a study involving Indian women found that higher socio-economic status and education did not increase fertility knowledge and awareness (35). Although a relationship between age and fertility awareness was found in this study, no such relationship was reported in the study conducted by Özşahin and Altıparmak (21). These findings indicate that fertility awareness is also influenced by geographical and cultural factors.

The study revealed that individuals whose own and their spouses' education levels were at the primary-secondary level and those whose spouses were not employed had higher levels of reproductive coercion than those whose spouses were not employed. In addition, a positive relationship was found between participants' age, number of pregnancies, number of childbirths, number of children, number of miscarriages, and reproductive coercion was observed. In line with this study, it has been determined in previous research (16,36) that as individuals' age and their own and their spouses' education and socio-economic levels increase, women feel less pressure regarding reproductive matters. Moreover, the literature indicates a significant association between perceived reproductive coercion and obstetric characteristics, such as the number of pregnancies, childbirths, children, and miscarriages. This association is particularly more pronounced in regions where gender role perceptions are not positive (11).

This study revealed that with an improvement in gender role perceptions, fertility awareness increased and reproductive coercion decreased. Similar to a study conducted by Şimşek (4), as gender-role perceptions increased, individuals exhibited more fertility-protective behaviors, that is, higher levels of fertility awareness. As access to healthcare facilities improves, potential risks related to fertility decrease. In this context, the study found that an increase in gender role perceptions was associated with a decrease in reproductive coercion. Uçan and Baydur (38) also found a moderate relationship between gender role perceptions and dominance in decisions related to reproduction. Grace (13) asserted that gender role perceptions influence decisions and pressures related to fertility. Gender role perceptions can diminish a woman's autonomy over reproduction by making the man the decision-maker in sexual life. Risky behaviors resulting from gender role perceptions can lead to reproductive problems. Consequently, an increase in reproductive coercion, which is a negative factor affecting fertility, can be attributed to gender role perceptions. Therefore, gender-role perceptions have a significant impact on the level of reproductive coercion (4).

### Study Limitations

Currently, the aim is to reduce gender inequality and address reproductive health issues in line with sustainable development goals. In this context, the study makes a significant contribution to the literature. However, due to the online nature of the survey through a hyperlink, participants might have hesitated to click on the link due to concerns regarding digital security.

### Conclusion

The findings revealed that the participants exhibited high gender perception, moderate fertility awareness, and experienced low levels of reproductive pressure. Increased gender perception was associated with increased fertility awareness and decreased reproductive pressure. Based on these findings, courses on gender perception, fertility awareness and reproductive pressure should be included in the undergraduate curriculum, which is the final stage of adult education for many young individuals. Additionally, healthcare professionals should organize health education programs, and awareness-raising activities through public service announcements and mass media to increase awareness among individuals in their reproductive age. Moreover, further research should be conducted to examine various variables to shed light on all aspects of the topic.

**Ethics Committee Approval:** The authors obtained ethical approval from the Bartın University's Ethics Committee (date: 14.11.2022, protocol no: 2022-SBB-0494).

**Informed Consent:** Informed consent was obtained from the participants, ensuring their voluntary participation in the study.

**Acknowledgments:** The research was presented as an oral presentation at the 1st International 21st National Nursing Students Congress held in Turkey. The presented paper received an Honorable Mention in the "Gender Studies Competition" held at the same congress.

### Footnotes

**Author Contributions:** Concept – E.C.E., İ.Y., G.M., N.Ü., S.K.; Design – E.C.E., İ.Y., G.M., N.Ü., S.K.; Data Collection and/or Processing –İ.Y., G.M., N.Ü., S.K., E.C.E.; Analysis and/or Interpretation – E.C.E., İ.Y., G.M., N.Ü., S.K.; Literature Review – E.C.E., İ.Y., G.M., N.Ü., S.K.; Writing – E.C.E., İ.Y., G.M., N.Ü., S.K.

**Declaration of Interests:** No conflict of interest was declared by the authors.

**Funding:** The authors declared that this study received no financial support.

### References

1. Altınova HH, Duyan V. The validity and reliability of perception of gender scale. Society and Social Work. 2013;24(2):9-22. (Turkish). [Crossref]
2. Omani-Samani R, Ghaheri A, Navid B, Sepidarkish M, Maroufizadeh S. Prevalence of generalized anxiety disorder and its related factors among infertile patients in Iran: A cross-sectional study. HRQOL. 2018;16(1):1-5. [Crossref]
3. World Economic Forum. Global gender gap report, 2023. [Internet]. Available from: https://www.weforum.org/reports/global-gender-gap-report-2023/digest [Crossref]
4. Şimşek H. Effects of gender inequalities on women's reproductive health: The case of Turkey. DEU Medical Faculty Journal. 2011;25(2):119-126. (Turkish) [Crossref]
5. Acharya S, Gowda CR. Lifestyle factors associated with infertility in a rural area: A cross-sectional study. Int J Med Sci Public Health. 2017;6(3):502-507. [Crossref]
6. Zegers-Hochschild F, Adamson GD, Dyer S, Racowsky C, De Mouzon J, Sokol R, et al. The international glossary on infertility and fertility care. Hum Reprod. 2017;32(9):1786-1801. [Crossref]
7. Özşahin Z, Derya YA. Fertility awareness scale development study in Turkish women. Eur J Integr Med. 2022;49:102101. [Crossref]
8. Gönenç İM, Topuz Ş, Sezer NY, Yılmaz S, Duman NB. Effect of gender course on gender perception. Journal of Ankara Health Sciences. 2018;7(1):22-29. (Turkish). [Crossref]
9. Kömürcü N, Yıldız H, Eylem TE, Karaman ÖE, Koyucu RG, Durmaz A, et al. Attitudes of nursing and midwifery students about gender roles and the perceptions of honor related to women. JACSD. 2016;5(1):22. (Turkish). [Crossref]
10. American College of Obstetricians and Gynecologists. Addressing intimate partner violence, reproductive and sexual coercion, 2013. [Crossref]
11. Grace KT, Fleming C. A in international settings. WMHP. 2016;8(4):382-408. [Crossref]
12. Fay KE, Yee LM. Birth outcomes among women affected by reproductive coercion. J Midwifery Womens Health. 2020;65(5):627-633. [Crossref]
13. Grace KT. Caring for women experiencing reproductive coercion. J Midwifery Womens Health. 2016;61(1):112-115. [Crossref]
14. Lévesque S, Boulebsol C, Lessard G, Bigaouette M, Fernet M, Valderrama A. Portrayal of domestic violence trajectories during the perinatal period. Violence Against Women. 2021;28(6-7):1542-1564. [Crossref]
15. Doğan R. Women's reproductive rights, abortion, the crime of self-induced abortion and causing miscarriage. Union of Turkish Bar Associations. 2016;127:73-120. (Turkish). [Crossref]
16. McCauley HL, Silverman JG, Jones KA, Tancredi DJ, Decker MR, McCormick MC, et al. Psychometric properties and refinement of the reproductive coercion scale. Contraception. 2017;95(3):292-298. [Crossref]
17. Öztürk R, Güner Ö. Turkish validity and reliability of the reproductive coercion scale. TJFMPC. 2021;15(1):100-109. (Turkish). [Crossref]
18. Turkish Statistical Institute. Women with Statistics, 2021. https://www.tuik.gov.tr/ [Crossref]
19. Aurin J, Thorlacius H, Butt ST. Age at first childbirth and breast cancer survival: A prospective cohort study. BMC Res Notes. 2020;13(1):9. [Crossref]
20. Nazik F, Mumcu Ş, Sönmez M, Yılmaz AN, Yüksekol DÖ. Determination of attitudes of 15-49 age married women towards family planning. Ordu University J Nurs Stud. 2021;4(3):326-336. (Turkish). [Crossref]
21. Özpulat F, Özvarış BŞ. The determination of the self-efficacy levels and gender perception among the students of the Akşehir school of health. sted. 2018;28(2):98-107. (Turkish). [Crossref]
22. Özşahin Z, Altıparmak S. Determining the effects of women's fertility awareness levels on obstetric history. Mid Black Sea J Health Sci. 2021;7(1):132-142. (Turkish). [Crossref]

23. Keçeci B, Ekşi H. Effect of gender perception and spiritual well-being on psychological abuse in married women. Marmara Üniversitesi Kadın ve Toplumsal Cinsiyet Araştırmaları Dergisi. 2020;4(1):30-48. (Turkish). [Crossref]
24. Yücel U, Güner S, Şen FS. Assessment the use of family planning methods and service resources among women between the ages of 15-49 who have children under two years old. Med Sci. 2018;13(4):120-128. (Turkish). [Crossref]
25. Üstgörül S, Önür H, Önür HT. Examining the gender perceptions and sexual attitudes of university students. Al-Farabi International Journal on Social Sciences. 2020;5(3):77-87. (Turkish). [Crossref]
26. Lotfi S, Özkan AO, Babacan M, Akduman, Ö. An investigation of social work students' perceptions of gender and dating violence attitudes in the context of various variables. JSSWR. 2022;33(2):463-482. [Crossref]
27. 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;3(2):71-81. [Crossref]
28. Basat O, Mercan Başpınar M. Effect of marital typology, reproductive coercion, and contraceptive methods in abortion rate, Istanbul 2021. Ankara Med J. 2022;22(4):510-519. (Turkish). [Crossref]
29. Wood SN, Kennedy SR, Akumu I, Tallam C, Asira B, Hameeduddin Z, et al. Reproductive coercion among intimate partner violence survivors in Nairobi. Stud Fam Plann. 2020;51(4):343-360. [Crossref]
30. Skracic I, Lewin AB, Steinberg JR. Types of lifetime reproductive coercion and current contraceptive use. J Womens Health (Larchmt). 2021;30(8):1078-1085. [Crossref]
31. Çifçi S, Saka G, Akın AN. Gender perception and affecting factors: Example of Mardin. Turk J Public Health. 2022;20(1):1-13. (Turkish). [Crossref]
32. Akpınar B, Kırlıoğlu M. Investigation of marital adjustment in terms of some variables and the effect of gender role attitude on marital adjustment. SUSBED. 2020;23(2):736-746. (Turkish). [Crossref]
33. Dansereau E, Schaefer A, Hernández B, Nelson J, Palmisano E, Ríos-Zertuche D, et al. Perceptions of and barriers to family planning services in the poorest regions of Chiapas, Mexico: A qualitative study of men, women, and adolescents. Reprod Health. 2017;14:129. [Crossref]
34. Mosha I, Ruben R, Kakoko D. Family planning decisions, perceptions and gender dynamics among couples in Mwanza, Tanzania: A qualitative study. BMC Public Health. 2013;13:523. [Crossref]
35. Sundararajan R, Yoder LM, Kihunrwa A, Aristide C, Kalluvya SE, Downs DJ, et al. How gender and religion impact uptake of family planning: Results from a qualitative study in Northwestern Tanzania. BMC Womens Health. 2019;19:99. [Crossref]
36. Mahey R, Gupta M, Kandpal S, Malhotra N, Vanamail P, Singh N, et al. Fertility awareness and knowledge among Indian women attending an infertility clinic: A cross-sectional study. BMC Womens Health. 2018;18:177. [Crossref]
37. Nuri Tural G, Sis Çelik A. Determination of the relationship between the levels of psychological effects of infertility and social support perceived by primary infertile women. HSP. 2019;6(1):91-104. (Turkish). [Crossref]
38. Uçan G, Baydur H. Adaptation of the sexual relationship power scale to Turkish, and validity and reliability criteria of the scale in women. Alpha Psychiatry. 2018;19(1):52-62. (Turkish). [Crossref]