Investigation of Early Childhood and Primary School Education Teacher Candidates' Attitudes to Gender Roles in Terms of Gender, Grade, Mother's and Father's Education Level[1]

Okul Öncesi ve Sınıf Öğretmenliği Öğretmen Adaylarının Toplumsal Cinsiyet Rolleri Tutumlarının Cinsiyet, Sınıf, Anne ve Baba Eğitim Düzeyi Açısından İncelenmesi

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ABSTRACT: Gender inequality indeed persists as a pervasive issue worldwide, infiltrating numerous facets of society and impeding progress toward a more equitable and just world. Schools play a crucial role as essential institutions where children embark on their initial journey into social life, contributing to the formation of values, norms, and social relationships. During these early years, children observe, imitate, and internalize the words, behaviors, and attitudes of teachers, shaping their understanding of the world around them. Therefore, children's perceptions of gender and attitudes toward gender can be significantly influenced by the attitudes and behaviors of their teachers. This research aims to examine whether there are differences in the gender-role attitudes among pre-service early childhood and primary school teachers based on gender, grade level, mother's and father's education level. The study was designed as a cross-sectional survey model, and data were collected from 1st and 4th-grade students enrolled in Early Childhood and Primary School Education Programs at a university in Turkey. The data were collected using a Personal Information Form and the Gender Role Attitude Scale (GRAS). The data were analyzed using Kruskal-Wallis and Mann-Whitney U tests in SPSS 22.0, and effect sizes were calculated. Analysis indicated that there were statistically significant differences in gender role attitudes between genders, grade level, and mother's education level. However, there was no statistically significant difference in the scores based on the

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father's education level. Female teacher candidates were found to have more egalitarian gender role attitudes compared to male teacher candidates, and 4th-grade students exhibited more egalitarian attitudes than 1st-grade students. Additionally, it was observed that teacher candidates whose mothers were illiterate tended to have more traditional gender role attitudes compared to those whose mothers had primary school, middle school, high school, or college degrees.

Keywords: Early childhood education, preschool education, primary school education, gender-role attitudes, pre-service teachers

ÖZ: Toplumsal cinsiyet eşitsizliği günümüzde tüm dünyada birçok alanda yaşanan bir sorun olarak karşımıza çıkmaktadır. Okullar, çocukların sosyal hayata adım attığı, değerlerin, normların ve toplumsal ilişkilerin şekillendiği önemli kurumlardır. Öğretmenlerin sözleri, davranışları ve tutumları özellikle erken yıllarda çocuklar tarafından dikkatle gözlemlenir, taklit edilir ve içselleştirilir. Bu nedenle, öğrencilerin cinsiyet algısı ve toplumsal cinsiyete ilişkin tutumları, öğretmenlerin tutumları ve davranışlarından büyük ölçüde etkilenebilir. Bu araştırmada sınıf öğretmenliği ve okulöncesi öğretmenliği öğretmen adaylarının toplumsal cinsiyet rollerine ilişkin tutumlarının cinsiyet, sınıf, annenin ve babanın eğitim durumu değişkenine göre farklılar olup olmadığı incelenmesi amaçlanmış olup, kesitsel tarama modeli kullanılmıştır. Araştırmanın katılımcılarını Sınıf Öğretmenliği ve Okulöncesi Öğretmenliği Programlarında eğitimine devam eden 1. ve 4. sınıf öğrencileri oluşturmuştur. Veri toplama araçları Toplumsal Cinsiyet Rolleri Tutum Ölçeği (TCRTÖ) ve Kişisel Bilgi Formudur. Verilerin analizi SPSS 22.0 programında Kruskal-Wallis ve Mann-Whitney U Testi ile yapılmış ve etki büyüklükleri elle hesaplanmıştır. Katılımcıların cinsiyeti, sınıf düzeyi ve anne eğitim durumu değişkenleri açısından TCRTÖ toplam tutum puanı ve alt boyutları puanlarında gruplar arası istatistiksel olarak anlamlı fark varken; baba eğitim durumu değişkeninde grupların puanları arasındaki farklılaşmanın istatistiksel olarak anlamlı olmadığı belirlenmiştir. Kadın öğretmen adaylarının erkek öğretmen adaylarından; 4. sınıfların 1. sınıflardan toplumsal cinsiyet rolleri tutumlarında daha eşitlikçi oldukları görülmüştür. Anneleri okuma yazma bilmeyenlerin ise anneleri ilkokul, ortaokul, lise ve yükseköğrenim görenlere kıyasla cinsiyet rolleri tutumlarında daha geleneksel oldukları sonucuna ulaşılmıştır.

Anahtar sözcükler: Erken çocukluk eğitimi, okulöncesi eğitim, sınıf öğretmenliği, toplumsal cinsiyet rollerine ilişkin tutumlar, öğretmen adayları.

1. INTRODUCTION

Gender, which is accepted as the social and cultural definition of being female or male (Koçak Turhanoğlu, 2019), is a concept that has long been debated and researched. The concept of gender is associated with the roles assigned to individuals by society (Fogel and Reese, 2001). Norms and values about gender roles, as dictated by societal culture, are acquired, reinforced, and internalized by both girls and boys throughout the process of socialization (Koçak Turhanoğlu, 2019). When the evolutionary development of social roles is examined, it is observed that in hunter-gatherer groups, both sexes hunted and participated in warfare, but over time, women's roles shifted towards increasingly domestic responsibilities such as childcare and gathering food from the environment (Turan et al., 2011). Although traditional gender roles have changed throughout history, they persist today (Williams and Best, 1990). Mary Wollstonecraft, who emphasized in her book "A Vindication of the Rights of Woman," published in 1792, that the rational abilities of women and men are equivalent and that existing differences are due to lack of education and socialization, laid the foundation for feminist thought (Özyıldız, 2019). Çoşan Eke (2006) stated that the reason for the traditional and unequal gender-role attitudes in individuals is patriarchy in the process of socialization. This inequality begins within the family and systematically expands to many areas of society, starting from the close social environment (Bora, 2012).

Individuals may form stereotypical perceptions of gender as they are influenced by societal expectations while shaping their understanding of gender roles. Therefore, stereotypes can vary depending on the culture in which they exist. Various studies conducted in Turkey demonstrate different effects of stereotypical behaviors and attitudes regarding gender. Research findings suggest certain gender-related differences: girls exhibit significantly lower levels of assertiveness compared to boys (Arı, 1989); women often perceive themselves as weaker and more vulnerable than men regarding gender (Erol, 2008); men tend to score higher on measures of aggression (Hasta and Güler, 2013); moreover, men are more inclined to endorse aggressive and othering expressions toward the opposite sex, whereas women are more likely to endorse protective expressions (Alptekin, 2014). Additionally, two separate studies conducted by Esen (2013) and Çelik Bekleviç (2013) indicate that male participants with stereotypical gender attitudes expressed the idea of segregating professions according to gender characteristics.

According to the "Fourth National Action Plan on Combating Violence Against Women," developed by the Ministry of Family and Social Services of the Republic of Turkey (2021-2025), the nationwide rate of men engaging in physical violence towards their spouses is reported as 23%. Notably, the rate increases to 51% among men whose mothers themselves experienced physical violence (Directorate General on the Status of Women, 2021). Günay, Şimşek, and Dönmez (2012) attribute this situation to traditional gender attitudes, explaining that men often perceive their aggressive behavior towards women as a natural response when they become angry. The adoption of more egalitarian roles concerning gender within the family has been observed to serve as a preventive measure against both physical and emotional violence within the family. Traditional gender attitudes are noted to foster stereotypical perspectives, contributing to inequalities in the social and cultural spheres for women and girls, both within and outside the family. Importantly, such traditional attitudes significantly compromise individuals' rights to uniqueness and life. In addition, research findings (Semiz and Ören, 2024) indicated that the perception of the modern fatherhood role positively predicts father involvement; furthermore, it positively predicts the child's level of social competence and negatively predicts the levels of anxiety-withdrawal and anger-aggression. The perception of the modern fatherhood role indicates an egalitarian attitude where domestic responsibilities are equally shared between parents, they equally respond to the

child's interests and needs, and actively participate in the child's development and education. This finding demonstrates the importance of egalitarian parenting attitudes in positively influencing the child's social-emotional development and raising mentally healthy individuals. According to the "Fatherhood and its Determinants in Turkey Report" by the Mother Child Education Foundation (AÇEV), various factors, including gender-biased attitudes towards the child and women, the perception of being the head of the household, and the division of household chores based on gender, significantly influence fatherhood behavior, particularly in the context of communication between the child and the father (AÇEV, 2017a).

It is important to note that the prevailing societal perception of gender is a key factor contributing to the frequent occurrence of femicide news in the media in Turkey. In her review study, Kolburan (2017) asserted that the inclination of men towards violence is rooted in perceiving women as objects to be possessed and viewing a woman's opposition as a threat to their authority and status. This perception fosters a belief among men that they have the right to employ violence, or even resort to killing women when they feel inclined to do so.

According to the "Gender Equality Report" published by the World Economic Forum, Turkey is ranked 124th out of 146 countries (World Economic Forum, 2022). This ranking underscores the persistence of gender inequality in Turkey, indicating that current efforts to achieve gender equality are insufficient. It highlights the need for additional work on gender equality across various policy areas in the country. Traditional attitudes toward gender are viewed as social taboos learned from the social environment, suggesting that they can be changed (Dökmen, 2004). The family serves as an individual's initial social environment where attitudes toward gender are formed. The early years of a person's life are crucial for social-emotional development, personality formation, language acquisition, and the shaping of gender identity and attitudes toward gender (Dökmen, 2010, p. 28). Moreover, children's experiences within the family and their perceptions of gender can directly influence their understanding of what it means to be male or female.

Research findings highlight certain gender-related patterns within families. For instance, families tend to show less attention to girls than boys concerning toy purchases, food choices, and clothing selections (Binbaşıoğlu, 1988). Additionally, household responsibilities are not evenly distributed between girls and boys, with girls often assigned more tasks (Ministry of Family and Social Policies, 2011). Moreover, children whose mothers exhibit stereotypical attitudes tend to make stereotypical choices when selecting toys (Yağan Güder and Güler Yıldız, 2016).

Evidence suggests that children in the preschool period utilize gender-specific emotional stereotypes when expressing their own and others' emotions. Bayramoğlu (2015) conducted a study using the "Gender-Emotion Stereotype Scenario Scale" with children attending preschool and kindergarten. The findings indicated that children tended to depict expressions of anger more frequently on male characters and expressions of sadness more frequently on female characters in their drawings. Furthermore, children described women as weak, powerless, inadequate, and prone to crying, while men were characterized as courageous, strong, unemotional, and attentive (Yağan Güder & Güler Yıldız, 2016).

While the family is the primary influencer of a child's perceptions regarding gender, it's evident that other factors such as friends, relatives, neighbors, media, culture, teachers, and school also play a significant role in the formation of gender roles. As social beings, humans value acceptance and approval from the cultural community they belong to and make efforts to be part of the community. A child seeking social acceptance and approval gradually internalizes society's gender stereotypes and gender

roles over time, much like other social norms. While perceptions of gender roles may vary across cultures and countries (Berscheid, 1995), it is evident that each country faces its own set of gender-related challenges and issues. When examining cross-cultural comparisons, studies indicate that families living in Canadian culture tend to adopt more egalitarian gender roles compared to Chinese culture (Marshall, 2010), Japanese children have less egalitarian gender roles compared to German children (Trommsdorff and Lwawaki, 1989), and South Asian immigrants in Canada have more traditional gender roles compared to other immigrant individuals (Talabani and Hasanali, 2000). Children's books and media, which reflect the norms of each society's culture, particularly play a significant role in shaping the gender roles of children in early childhood. Ashton (1983) found that children's books featuring characters with traditional gender roles contribute to the formation of stereotypes in children.

In the early childhood period, which signifies the initial step of the educational journey, preschool teachers bear a significant responsibility in nurturing individuals who embrace egalitarianism and are free from stereotypes in the modern world. Achieving gender equality in society is possible through the implementation of egalitarian education. During early childhood, children receive both explicit and implicit messages from their teachers and families as they form schemas related to gender roles. The words, behaviors, and attitudes used by teachers in their interactions with students are imitated by children (Korkmaz, 2009). Teachers convey their expectations, attitudes, and beliefs about gender roles to children during the learning processes, both formally and informally, within their classrooms and outdoor playgrounds. Research findings consistently demonstrate that teachers and peers within the classroom exert significant influences on the formation of children's gender roles in early childhood education (Cahill and Adams, 1997; Chen and Rao, 2011; Fromberg, 2005; Trommsdorff and Lwawaki, 1989). A review of the literature (Esen, 2013) emphasizes the importance of teachers holding egalitarian beliefs and attitudes toward gender to foster children's development of egalitarian schemas and attitudes regarding gender. An essential strategy to diminish traditional gender beliefs involves raising awareness and sensitivity among teachers about achieving gender equality in society. Therefore, it is crucial to examine the gender attitudes and beliefs of pre-service teachers studying in education faculties.

Studies examining gender-related issues conducted with pre-service teachers focused on their perceptions regarding gender (Aslan, 2015; Ünal, Tarhan, & Köksal, 2017), beliefs about gender roles (Almutawa, 2005), perceptions of gender-specific self-efficacy (Sak, 2015; Sumsuion, 2005), factors influencing gender roles (Topuz & Yıldızbaş, 2014) and the impact of gender-related courses during undergraduate education on students' gender-role attitudes (Esen, 2013; Tantekin Erden, 2009). It has been found that a course aimed at increasing awareness of egalitarian gender roles among students attending education faculties led to questioning of their stereotypical value judgments and an increase in egalitarian attitudes (Tantekin Erden, 2009). A study on gender roles among teacher candidates indicated that there was no difference in gender roles based on socio-economic status, but there was a difference in masculine gender role scores between males and females, and candidates over 25 tended to adopt more androgynous gender roles, while those residing in urban areas tended to internalize the androgynous role to a greater extent (Topuz & Yıldızbaş, 2014). An androgynous gender role is defined as a concept that encompasses both masculine and feminine gender characteristics, allowing individuals to display appropriate gender roles in various situations (Witt, 1997). In a study by Seçgin and Tural (2011), it was noted that teacher candidates tended to respond in favor of their gender. Studies with pre-service teachers mainly focused on the relationship between gender and community types (rural or urban), and it is believed that investigating other factors that may influence the formation of gender-role attitudes in teacher candidates would contribute to the literature.

Given the importance of early childhood period in the formation of schemas, stereotypes, and attitudes related to gender roles, it is believed that investigating the variables related to gender role atitudes of pre-service preschool and primary school teachers will contribute to the literature and guide educational policies in developing egalitarian gender perceptions among teacher candidates. Therefore, this research aims to examine the attitudes of pre-service preschool and primary school teacher candidates towards gender roles and determine whether these attitudes vary according to participants' gender, grade level, and parental education level. The research questions to be addressed are as follows:

1. Is there a significant difference in gender-role attitudes among male and female students enrolled in the Preschool and Primary School Teacher Education Program?

2. Is there a significant difference in gender-role attitudes among 1st and 4th-grade students enrolled in the Preschool and Primary School Teacher Education Program based on their grade level?

3. Is there a significant difference in gender-role attitudes among students enrolled in the Preschool and Primary School Teacher Education Program based on their mothers' education level?

4. Is there a significant difference in gender-role attitudes among students enrolled in the Preschool and Primary School Teacher Education Program based on their fathers' education level?

2. METHOD

This study utilized a quantitative approach, employing a cross-sectional survey design. In education, the most commonly used survey design is the cross-sectional survey, where the researcher collects data at a single point in time. In cross-sectional surveys, not only can individuals' current attitudes, beliefs, thoughts, and practices be examined, but also the attitudes, beliefs, thoughts, and practices of different groups can be compared (Creswell, 2012).

2.1. Participants

The participants of the study consisted of 250 students enrolled in the 1st and 4th grades of the Preschool and Primary School Teaching Program at a government university in the Central Anatolia Region of Turkey, within the faculty of education, during the fall semester of the 2018-2019 academic year. The rationale for choosing participants from both the 1st and 4th grades was to investigate whether there was a significant difference between the initial and final years of schooling. The participants were informed about the voluntary nature of participation and the confidentiality of the data. The demographic information of participants is presented in Table 1.

Table 1: *Demographic Characteristics*

Participant		Number (N:250)	Percentage (%)
Gender	Female		
	Preschool Teacher	105	42
	Primary school Teacher	91	36,4
	Male		
	Preschool Teacher	23	9,2
	Primary school Teacher	31	12,4
Grade Level	1st grade	109	43,6
	4th grade	141	56,4
Mothers' Education Level	Illiterate	16	6,4
	Literate (no degree)	6	2,4
	Primary School Degree	128	51,2
	Middle School Degree	50	20
	High School Degree	38	15,2
	University Degree	12	4,8
Fathers' Education Level	Illiterate	2	0,8
	Literate (no degree)	6	2,4
	Primary School Degree	76	30,4
	Middle School Degree	61	24,4
	High School Degree	59	23,6
	University Degree	46	18,4

A total of 250 participants took part in the research, with 196 being female and 54 being male. Of the teacher candidates, 43.6% are in the 1st grade, while 56.4% are in the 4th grade. When examining the education level of the participants' parents, it was observed that 60% of the mothers and 33.6% of the fathers have only primary school degree or less. Additionally, only 4.8% of the participants' mothers and 18.4% of the fathers have graduated from university.

2.2. Data Collection Techniques and Tools

The data collection instruments used in the study included a personal information form and the "Gender Role Attitudes Scale" developed by Zeyneloğlu in 2008. The personal information form included questions about the gender, grade, and parental education level of the teacher candidates.

The "Gender Role Attitudes Scale" consists of 38 items rated on a 5-point Likert scale ranging from "Strongly Agree" with a score of "5" to "Strongly Disagree" with a score of "1". The maximum score that can be obtained from the scale is 190 and the minimum score is 38. It is noted that higher scores indicate more egalitarian gender attitudes, while lower scores indicate more traditional gender attitudes (Zeyneloğlu & Terzioğlu, 2011). The Cronbach's alpha (α) values of the scale for Total Attitude Score, Egalitarian Gender Role, Female Gender Role, Marriage Gender Role, Traditional Gender Role,

and Male Gender Role subscales are respectively; α = .92, .78, .80, .78, .72, and .78. The "Egalitarian Gender Role" subscale assesses attitudes towards the equitable distribution of social roles and responsibilities between genders. The "Female Gender Role" subscale measures attitudes regarding the societal expectations and roles assigned to women. Conversely, the "Male Gender Role" subscale assesses attitudes regarding the societal expectations and roles assigned to men. The "Marriage Gender Role" subscale evaluates attitudes towards the roles and responsibilities undertaken by both men and women in marriage, as per societal norms. Lastly, the "Traditional Gender Role" subscale aims to discern attitudes towards the customary roles and responsibilities expected from both genders in everyday life. Sample items from the scale include: "In family, decisions should be made together by spouses. When a woman goes to the hospital, she should see a female doctor. If the man has sufficient financial means, the woman should not work. Pink clothes should be worn for baby girls, and blue clothes for baby boys."

2.3. Data Analysis

The assumption of using parametric tests in data analysis relies on the normal distribution of the data (Baştürk, 2011). Tabachnick and Fidell (2015) stated that skewness and kurtosis values should be between -1.5 and +1.5 for data to exhibit normal distribution. The results of the Kolmogorov-Smirnov normality test indicated that the skewness Z-score was -10.12, the kurtosis Z-score was 13.14, and the p-value was less than 0.01. Examining the Z-scores, it can be concluded that the data do not follow a normal distribution. Additionally, it has been suggested that for data to be assumed to have a normal distribution, the p-value should be greater than 0.05 (Pallant, 2016). A p-value less than 0.01 also indicates that the data are not normally distributed. Given the variability in participant numbers across groups, particularly concerning factors like the mother's education level, it's evident that parametric tests may not be suitable. Instead, nonparametric tests are considered more appropriate for analyzing the data. (Green & Salkind, 2005, p. 385). Therefore, in this study, nonparametric tests, which do not require normal distribution, were used to analyze differences between groups. Specifically, the Mann-Whitney U Test was used when comparing two groups, while the Kruskal-Wallis Test was used when comparing three or more groups. When statistically significant differences were found among groups in the Kruskal-Wallis test, the Mann-Whitney U Test was conducted for each pair of groups to determine which groups differed. Since effect sizes cannot be calculated directly in SPSS, the researchers manually calculated effect sizes using the formula $r = Z / \sqrt{N}$ (Baştürk, 2011; Pallant, 2016). Effect size is used to numerically indicate and interpret the magnitude of an effect, aiming to provide a more detailed understanding of statistical significance (Fritz, Morris, & Richler, 2011).

3. FINDINGS

This section provides descriptive statistics for teacher candidates' gender role attitudes, followed by the findings of the analyses regarding differences in attitudes based on participant-related variables (gender and grade) and family-related variables (mother's education level and father's education level). Table 2 presents the mean scores, medians, and minimum and maximum scores for both the total and sub-dimensions of the Gender Role Attitudes Scale (GRAS) among the participants.

Table 2: *The mean scores, medians, minimum, and maximum scores for the total and sub-dimensions of the Gender Role Attitudes Scale (GRAS) among university students are presented*

Total and Sub-dimension Scores of GRAS	Number(N)	Mean	Median	Min	Max
Total Scale Score (max. 190 points)	250	167,66	172	67	190
Traditional Gender Role (max. 40 points)	250	33,33	34	16	40
Equal Gender Role (max. 40 points)	250	37,33	39	8	40
Male Gender Role (max. 30 points)	250	26,68	28	12	30
Gender Role in Marriage (max. 40 points)	250	37,31	38	11	40
Female Gender Role (max. 40 points)	250	32,84	33	16	40

Table 2 indicates that the median of the 'Gender Role Attitudes Scale Total Scores' is '172', with the lowest score recorded as '67', and the highest score attained as '190'. Furthermore, the median score for the 'Traditional Gender Role' subscale is '34', with the highest score observed at '40' and the lowest score documented as '16'. Regarding the 'Egalitarian Gender Role' subscale, the median score stands at '39', while the highest score noted is '40' and the lowest score reported is '8'. Similarly, for the 'Male Gender Role' subscale, the median score is '28', with the highest score reaching '30' and the lowest score bottoming out at '12'. As for the 'Marital Gender Role' subscale, the median score is '38', with the highest score registered at '40' and the lowest score recorded as '11'. Lastly, for the 'Female Gender Role' subscale, the median score is '33', the highest score is '40', and the lowest score is '16'.

3.1. The Findings of Teacher Candidates' Gender-role attitudes and Gender

The results of the Mann-Whitney U Test, conducted to analyze the differences in scores obtained from the total GRAS and its five subscales among female and male teacher candidates, are presented in Table 3.

Table 3: *Mann-Whitney U Test Results by Gender*

GRAS and Sub-Dimensions	Gender	Number(n)	Rank Mean	Rank Sum	U	Z	r	p
GRAS Total score	Female	196	138.99	27243	2647*	-5.63	0.36	0.000
	Male	54	76.52	4132				
Egalitarian Gender Role	Female	196	137.89	27027	2863*	-5.43	0.34	0.000
	Male	54	80.52	4348				
Female Gender Role	Female	196	135.45	26548.50	3341.50*	-4.16	0.26	0.000
	Male	54	89.38	4826.50				
Marital Gender Role	Female	196	139.68	27377	2513*	-6.05	0.38	0.000
	Male	54	74.04	3998				
Traditional Gender Role	Female	196	138	27048.50	2841.50*	-5.23	0.33	0.000
	Male	54	80.12	4826.50				
Male Gender Role	Female	196	134.45	6352	3538*	-3.77	0.24	0.000
	Male	54	93.02	5023				

* p<0.01

Mann-Whitney U Test results revealed a significant difference between females (Md=139, N=196) and males (Md=76.5, N=54) in terms of the 'Total Score of Gender Role Attitudes Scale', U=2647, z=-5.63, p<0.01, r=0.36. Additionally, a significant difference was found between females (Md=138, N=196) and males (Md=80.5, N=54) in terms of the 'Egalitarian Gender Role' subscale scores, U=2863, z=-5.43, p<0.01, r=0.34. A significant difference was also observed in the 'Female Gender Role' subscale scores between females (Md=135, N=196) and males (Md=89, N=54), U=3341.5, z=-4.16, p<0.01, r=0.26. Regarding the scores obtained from the 'Marital Gender Role' subscale, a significant difference was determined between females (Md=140, N=196) and males (Md=74, N=54), U=2513, z=-6.05, p<0.01, r=0.38. The scores obtained from the 'Traditional Gender Role' subscale also showed a significant difference between males (Md=80, N=54) and females (Md=138, N=196), U=2841.5, z=-5.23, p<0.01, r=0.33. Moreover, a significant difference was observed in the scores obtained from the 'Male Gender Role' subscale between females (Md=134.5, N=196) and males (Md=93, N=54), U=3538, z=-3.77, p<0.01, r=0.24.

Significant differences were found between females and males in both the total score and all five subscales of the gender role attitudes scale. When comparing the mean ranks, it can be seen that the difference is in favor of females. Female teacher candidates scored higher than male teacher candidates in the total score and all subscales of the scale. These higher scores indicate that female teacher candidates have more egalitarian gender roles. Cohen's guidelines of Pearson's r = .10, .30, and .50 to interpret observed effect sizes as small, medium, or large, respectively were used (Pallant, 2016).   By looking at Table 3 it can be said that all effect sizes are close to or around medium.

3.2. Findings and Interpretation Regarding Teacher Candidates' Gender-role attitudes and the Variable of Grade level

The results of the Mann-Whitney U Test for the differences between 1st grade and 4th grade participants' GRAS total scores and sub-scores are presented in Table 4.

Table 4: *Mann-Whitney U Test Results by Grade level*

GRAS and Sub-Dimensions	Grade level	Number(n)	Rank Mean	Rank Sum	U	Z	r	p
GRAS Total score	1. sınıf	109	105.88	11540.50	5545.50**	-3.78	0.24	0.000
	4. sınıf	141	140.67	19834.50				
Egalitarian Gender Role	1. sınıf	109	124.90	13614	7619.0	-0.12	0.05	0.966
	4. sınıf	141	125.96	17761				
Female Gender Role	1. sınıf	109	105.19	11466	5471.0**	-3.91	0.25	0.000
	4. sınıf	141	141.20	19909				
Marital Gender Role	1. sınıf	109	100.95	11004	5009.0**	-4.83	0.31	0.000
	4. sınıf	141	144.48	20371				
Traditional Gender Role	1. sınıf	109	106.67	11627.50	5632.50**	-3.63	0.23	0.000
	4. sınıf	141	140.05	19747.50				
Male Gender Role	1. sınıf	109	112.62	12276	6281,0*	-2.51	0.16	0.016
	4. sınıf	141	135.45	19099				

*p<0.05;** p<0.01

The results of the Mann-Whitney U Test indicate a significant difference in the 'Total Score of the Gender Role Attitudes Scale' between 1st graders (Md=106, N=109) and 4th graders (Md=141, N=141), U=5545.5, z=-3.78, p<0.05, r=0.24. With the exception of the subscale 'Egalitarian Gender Role', there was a significant difference between 1st graders and 4th graders in all subscales. A significant difference was found between 1st graders (Md=105, N=109) and 4th graders (Md=141, N=141) in the subscale 'Female Gender Role', U=5471, z=-3.91, p<0.05, r=0.25. There was also a significant difference between 1st graders (Md=101, N=109) and 4th graders (Md=144.5, N=141) in the subscale of 'Marital Gender Role', U=5009, z=-4.83, p<0.05, r=0.31. In the subscale of 'Traditional Gender Role' a significant difference was also found between 1st graders (Md=107, N=109) and 4th graders (Md=141, N=141), U=5632.5, z=-3.63, p<0.05, r=0.23. Lastly, for the subscale of 'Male Gender Role' there was a significant difference between 1st graders (Md=113, N=109) and 4th graders (Md=135.5, N=141), U=6281, z=-2.51, p<0.05, r=0.16.

With the exception of the 'Egalitarian gender role' subscale, there was a statistically significant difference between first and fourth graders for all subscales and the total GRAS score. A comparison of the ranking averages shows that the advantage lies in favor of the fourth graders. The 4th grade participants scored higher than the 1st grade participants on the overall GRAS score and on all dimensions except the 'Egalitarian gender role' subscale. This result suggests that the 1st grade participants have a more traditional perception of gender roles than the 4th grade participants. The Cohen's effect size values (0.5 high effect size; 0.3 moderate effect size; 0.1 low effect size) were used to evaluate the effect sizes in Table 4 (Pallant, 2016). It can be said that the effect size of the values of the subscale 'Male gender role' is low, while all other effect sizes are around or close to the moderate size.

3.3. Findings on Pre-Service Teachers' Gender-role Attitudes Based on Mothers' Educational Background

The results of the Kruskal-Wallis Test, conducted to analyze the differences in participants' scores on the total and five sub-dimensions of GRAS based on mothers' educational background, are provided in Table 5.

Table 5: *Results of the Kruskal-Wallis Test based on Mother's Educational Background*

GRAS and Sub-Dimensions	Mother's Educational Background	Number (n)	Rank Mean	X^2	Significant Difference	r	p
GRAS Total score	Illeterate Literate Primary School Middle School High School University	16 6 128 50 38 12	60.47 89.58 120.46 144.99 144.82 141.54	22.0 **	Illeterate- Primary School Illeterate- Middle School Illeterate- High School Illeterate- University Primary School - Middle School	0.28 0.47 0.53 0.44 0.55	0.000

Egalitarian Gender Role	IlleterateLiterate Primary School Middle School High School University	16 6 128 50 38 12	72.06 66.08 126.59 142.78 130.82 126.04	17.58 **	Illeterate- Primary School Illeterate- Middle School Illeterate- High School Illeterate- University Literate - Primary School Literate - Middle School Literate - High School	0.25 0.43 0.37 0.39 0.18 0.34 0.32	0.000
Female Gender Role	IlleterateLiterate Primary School Middle School High School University	16 6 128 50 38 12	56.16 111.92 120.76 143.39 145.91 136.13	21.92 **	Illeterate- Primary School Illeterate- Middle School Illeterate- High School Illeterate- University	0.30 0.47 0.57 0.55	0.001
Marital Gender Role	IlleterateLiterate Primary School Middle School High School University	16 6 128 50 38 12	84.56 87.75 120.87 132.56 157.49 117.67	16.09 **	Illeterate- Primary School Illeterate- Middle School Illeterate- High School Primary School - High School	0.17 0.29 0.46 0.22	0.002
Traditional Gender Role	IlleterateLiterate Primary School Middle School High School University	16 6 128 50 38 12	75.25 95.33 120.16 142.03 138.13 155.63	15.42 **	Illeterate- Primary School Illeterate- Middle School Illeterate- High School Non-Literate-University	0.41 0.45 0.49 0.23	0.002
Male Gender Role	IlleterateLiterate Primary School Middle School High School University	16 6 128 50 38 12	84.44 89.33 120.78 141.86 138.38 139.71	11.71 *	Illeterate- Primary School Illeterate- Middle School Illeterate- High School	0.17 0.34 0.35	0.024

* p<0.05; ** p<0.01

The results of the Kruskal-Wallis Test indicate a significant difference in the 'Total Score of the Gender Role Attitudes Scale' between participants categorized by their mothers' level of education. The Mann-Whitney U Test was conducted to determine which groups were statistically different from each other. The results show a significant difference between the participants whose mothers are illiterate (Md=60.5, N=16) and the participants whose mothers have the following educational level: Primary school degree (Md=120.5, N=128), secondary school degree (Md=145, N=50), high school degree (Md=145, N=38), and university (two- or four-year college) degree (Md=141.5, N=12), X2=22.0, p<0.01.

Participants whose mothers were illiterate scored lower on the GRAS total score as compared to those whose mothers had primary, secondary, high school, and university/college education. Similarly, participants whose mothers had primary school education scored lower than those whose mothers had secondary school education. This leads to the conclusion that participants whose mothers were illiterate had a less egalitarian perception of gender roles than all the other groups and those whose mothers had only completed primary school education had a less egalitarian perception compared to those whose mothers had secondary and high school degrees. The effect sizes between the participants whose mothers

were illiterate and those whose mothers had primary, secondary, high school, and university degrees are relatively large or close to large, while the effect sizes between the participants whose mothers had primary school degrees and those whose mothers had secondary school degree are small, according to Cohen's criteria. The results of the Kruskal-Wallis test indicate significant differences between participants' scores in the 'Equality Gender Role' subscale based on their mothers' educational level ($X2=17.58$, $p<0.01$). According to the results of the Mann-Whitney U test, there is a significant difference between the participants whose mothers are illiterate and those whose mothers had primary, middle, high school and university degrees ($U=567.50$, $z=-3.02$, $p<0.05$, $r=0.25$). Similarly, there is a significant difference between participants whose mothers were literate and those whose mothers had primary, middle, and high school degree ($U=180.0$, $z=-3.47$, $p<0.05$, $r=0.43$; $U=165.50$, $z=-2.74$, $p<0.05$, $r=0.37$; $U=52.50$, $z=-2.05$, $p<0.05$, $r=0.39$; $U=195.50$, $z=-2.12$, $p<0.05$, $r=0.18$; $U=60.50$, $z=-2.55$, $p<0.05$, $r=0.34$; $U=56.0$, $z=-2.10$, $p<0.05$, $r=0.32$).

Participants whose mothers are illiterate are found to have less egalitarian gender roles compared to all other groups, and the effect size of the difference between the groups is moderate. Participants whose mothers can read and write but do not have a degree, on the other hand, adopt more traditional gender roles than primary, middle, and high school graduates, and the effect size of the difference between the groups is high.

The results of the Kruskal-Wallis Test indicate a significant difference between the scores of teacher candidates in the 'Women Gender Role' subscale based on the educational status of their mothers ($X2=21.92$, $p<0.01$). According to the results of the Mann-Whitney U Test, there is a significant difference between the participants whose mothers are illiterate and those whose mothers have a primary, middle, high school, and university degree, respectively: $U=455.5$, $z=-3.62$, $p<0.05$, $r=0.30$; $U=143.0$, $z=-3.85$, $p<0.05$, $r=0.47$; $U=84.0$, $z=-4.18$, $p<0.05$, $r=0.57$; $U=33.0$, $z:=2.93$, $p<0.05$, $r=0.55$.

It can be observed that the scores of teacher candidates whose mothers are illiterate were lower in the 'Women Gender Role' subscale than those whose mothers have primary, middle, high school, and university degrees. The participants whose mothers were illiterate had a less egalitarian women gender role compared to all other groups. The effect sizes of the difference between the participants whose mothers are illiterate and those whose mothers have a primary school degree were moderate, while the differences between all other groups were high.

Furthermore, the Kruskal-Wallis Test results indicate a significant difference between the participants' scores in the 'Gender Role in Marriage' subscale based on their mothers' educational status ($X2=16.08$, $p<0.01$). According to the Mann-Whitney U Test results, significant differences were found between participants whose mothers were illiterate and those whose mothers had primary, middle, and high school degrees, respectively: $U=714.50$, $z=-2.00$, $p<0.05$, $r=0.17$; $U=247.0$, $z=-2.33$, $p<0.05$, $r=0.29$; $U=136.50$, $z=3.33$, $p<0.05$, $r=0.46$; $U=1709.50$, $z=-2.86$, $p<0.05$, $r=0.22$.

The participants whose mothers are illiterate have lower scores in the 'Gender Role in Marriage' subscale compared to those whose mothers have primary, middle, high school, and university degrees. Moreover, participants whose mothers have primary degrees have lower scores than those whose mothers have high school degrees. It is observed that participants whose mothers are illiterate have less egalitarian gender roles in marriage compared to all other groups. According to Cohen's criteria, the effect size of the difference in scores between the participants whose mothers are illiterate and those whose mothers have primary, middle, and high school degrees is low; while the effect size between the participants whose mothers are illiterate and the participants whose mothers have middle and high school degree is high.

The Kruskal-Wallis Test results indicate a significant difference among participants' scores in the 'Traditional Gender Role' subscale based on their mothers' educational status (X2=15.42, p<0.01). According to the Mann-Whitney U Test results, there is a significant difference between participants whose mothers are illiterate and those whose mothers have primary, middle, high school, and university degree, respectively: U=178.0, z=-3.33, p<0.05, r=0.41; U=128.50, z=-3.34, p<0.05 r=0.45; U=40.50, z=-2.58, p<0.05, r=0.49; U=594.50, z=-2.74, p<0.05, r=0.23.

It is observed that the participants whose mothers are illiterate have lower scores in the 'Traditional Gender Role' subscale compared to those whose mothers have primary, middle, high school, and university degrees. The participants whose mothers are illiterate have less egalitarian gender roles compared to all other groups. According to Cohen's criteria, the effect size of the difference between groups is moderate between those with primary and middle school degrees, and high between all other groups.

Kruskal-Wallis Test results reveal a significant difference between the participants' scores in the 'Male Gender Role' subscale based on their mothers' educational status (X2=11.71, p<0.05). According to the Mann-Whitney U Test results, there is a significant difference between participants whose mothers are illiterate and those whose mothers have primary, middle, and high school degrees, respectively: U=715.0, z=-1.98, p<0.05, r=0.17; U=219.50, z=-2.74, p<0.05, r=0.34; U=171.50, z=-2.54, p<0.05, r=0.35.

It is observed that the participants whose mothers are illiterate have lower scores in the 'Male Gender Role' subscale compared to those whose mothers have primary, middle, and high school degrees. Participants whose mothers are illiterate have less egalitarian gender roles compared to all other groups. The effect sizes of the differences between the participants whose mothers are illiterate and the participants whose mothers have middle and high school degrees are moderate according to Cohen's criteria, while the effect size between the participants whose mothers are illiterate and the participants whose mothers have primary degrees is low.

3.4. Findings on Pre-Service Teachers' Gender-role Attitudes Based on Fathers' Educational Background

The results of the Kruskal-Wallis Test conducted to examine the difference in participants' scores on the total and five sub-dimensions of the GRAS based on fathers' educational background are presented in Table 6.

Table 6: *Results of the Kruskal-Wallis Test based on Father's Educational Background*

GRAS and Sub-Dimensions	Father's Educational Background	Number(n)	Rank Mean	X²	P
GRAS Total score	Non-Literate	2	74.75	4.45	0.486
	Literate	6	108.58		
	Primary School	76	117.68		
	Middle School	61	126.21		
	High School	59	139.53		
	University	46	123.89		

GRAS and Sub-Dimensions	Father's Educational Background	Number(n)	Rank Mean	X²	P
Egalitarian Gender Role	Non-Literate	2	57.00	4.74	0.449
	Literate	6	112.08		
	Primary School	76	124.21		
	Middle School	61	126.70		
	High School	59	136.90		
	University	46	116.15		
Female Gender Role	Non-Literate	2	60.00	6.18	0.289
	Literate	6	141.42		
	Primary School	76	112.97		
	Middle School	61	126.30		
	High School	59	137.97		
	University	46	129.93		
Marital Gender Role	Non-Literate	2	79.25	1.709	0.888
	Literate	6	132.0		
	Primary School	76	124.34		
	Middle School	61	124.62		
	High School	59	132.44		
	University	46	120.84		
Traditional Gender Role	Non-Literate	2	100.75	4.09	0.537
	Literate	6	102.50		
	Primary School	76	117.35		
	Middle School	61	126.69		
	High School	59	139.47		
	University	46	123.55		
Male Gender Role	Non-Literate	2	78.25	4.30	0.507
	Literate	6	80.92		
	Primary School	76	120.66		
	Middle School	61	131.34		
	High School	59	130.70		
	University	46	126.93		

Kruskal-Wallis Test results indicate that there is no significant difference between the participants based on the education level of their fathers in the 'Total Score of Gender Role Attitudes Scale' (X2=4.45, p>0.05), 'Egalitarian Gender Role' subscale scores (X2=4.74, p>0.05), 'Women Gender Role' subscale scores (X2=6.18, p>0.05), 'Gender Role in Marriage' subscale scores (X2=1.70, p>0.05), 'Traditional Gender Role' subscale scores (X2=4.09, p>0.05), and 'Male Gender Role' subscale scores (X2=4.30, p>0.05).

4. DISCUSSION and CONCLUSION

This study aimed to examine whether there were differences in the attitudes towards gender among pre-service preschool and primary school teacher candidates based on the participants' gender, grade, and their parents' level of education. It was observed that the majority of participants had egalitarian attitudes. Similar findings have been encountered in many studies conducted in pre-service education

programs in Turkey (Çavdar, 2013; Karasu et al., 2017; Öcal Yüceol, 2016; Önder, Yalçın, & Göktaş, 2013; Sönmez et al., 2018; Zeyneloğlu, 2008). Therefore, it can be said that university students mostly have egalitarian attitudes and that the educational process in universities provides an opportunity for individuals to develop a contemporary perspective on social development (Dinç & Çalışkan, 2016).

Another finding of the research indicated differences in the total scores and five sub-dimensions of the GRAS between the participants based on gender, showing that male students had more traditional gender role attitudes than female students. Female university students in Turkey have been found to have higher levels of egalitarian attitudes and perceptions compared to their male counterparts, according to multiple studies consistent with this one (Arıcı, 2011; Aylaz et al., 2014; Çavdar, 2013; Daşlı, 2019; Öngen & Aytaç, 2013; Seçgin & Tural, 2011). Furthermore, in another study examining the views of university students on societal environment, work life, and family culture, it was found that women mostly exhibit an egalitarian perspective on gender roles (Vefikuluçay et al., 2007). Similarly, another study (Seçgin & Tural, 2011) found that the female primary school teacher candidates scored significantly higher on the GRAS than the male participants. Additionally, Özden & Gölbaşı (2018) found that male healthcare workers had more traditional gender attitudes compared to female workers. In light of all these studies, it can be said that in Turkey, men have less egalitarian gender attitudes than women. However, there is a lack of research on gender differences among individuals with lower education levels or unemployed women.

Women's attitudes towards equality have improved over time due to several factors. These include such as the increasing educational attainment of women, their greater participation in the workforce, the expansion of their rights in the workplace, equal wealth distribution, and the efforts of various civil society organizations advocating for women's rights. Additionally, the recent widespread feminist movements have played a significant role in promoting egalitarian attitudes toward equality among women. Expanding legal rights has been linked to women developing more egalitarian views on gender roles. (Çavdar, 2013; Zeyneloğlu, 2008). Unfortunately, men do not share the same gender attitudes of equality as women, which can be seen in the violence committed against women and children by men. In some cases, women who wish to end their marriage can be killed by their husbands, who hold traditional views of ownership over women. According to the 2023 Annual Report of the We Will Stop Femicides Platform, a total of 315 women were killed in Turkey. Shockingly, 65% of these women were killed in their own homes. Of the women who were killed, 41% were murdered by their husbands, while 30% were in the process of divorce. 14% were killed by their male partners, and 9% were killed by their ex-husbands. The remaining perpetrators were sons, fathers, brothers, other relatives, or ex-partners. The report also highlights that there were 248 suspicious deaths of women. Similarly, between 2008 and 2021, 84.6% of the cases of violence against women were committed by family members, as reported by Aslan and Kırışkan in 2022. Domestic disputes are the most common cause of femicide, accounting for 92% of cases, followed by jealousy, honor, divorce demands, rejection, hatred, and animosity. It is crucial to educate boys in ways that promote gender equality to deal with this pressing issue.

Another variable affecting participants' attitudes toward gender roles in the study was the grade level of teacher candidates. When looking at the Total Scores and the scores from the five sub-dimensions of the GRAS, it can be seen that participants in their first year of college education have more traditional attitudes toward gender roles than those in their fourth year. Similar findings have been encountered in the literature (Başcı and Giray, 2016; Dinç and Çalışkan, 2016; Gümüş, 2019; Önder, Yalçın and Göktaş, 2013). For example, in a study with university students, fourth-year students exhibited more egalitarian attitudes compared to students in other years (Dinç and Çalışkan, 2016); in a study with medical faculty students, sixth-year students showed more egalitarian attitudes compared to students in other years (Başcı

and Giray, 2016); in a study with healthcare management students, fourth-year students had lower scores in terms of gender role attitudes compared to first-year students (Önder, Yalçın and Göktaş, 2013); similarly, in a study with medical faculty students, first-year students scored lower than sixth-year students in the 'Female Gender Role' sub-dimension of the GRAS (Sönmez et al., 2018). Changes in social and cultural environments at university, along with the chance to establish a new life away from family, may be influencing the attitudes of university students (Karasu et al., 2017). In conclusion, higher education institutions play a vital role in shaping individual and societal attitudes towards gender by offering students opportunities to develop more contemporary perspectives.

When looking at the GRAS attitude scores of teacher candidates based on their mothers' educational level, the difference between groups is significant. It is observed that participants whose mothers are illiterate have more traditional gender-role attitudes compared to participants whose mothers are graduates of all educational levels. In line with this finding, it has been found that university students whose mothers have primary school degrees have more traditional gender attitudes compared to those whose mothers have degrees from middle school, high school, or university (Öcal Yüceol, 2016). Similarly, Atış (2010) stated in their study that students whose mothers are illiterate or literate but have not graduated from any educational institute have more traditional gender-role attitudes compared to students whose mothers have degrees from any educational level. Çavdar (2013) found that students whose mothers are literate have more egalitarian attitudes towards gender compared to students whose mothers are illiterate, except in the GRAS 'Male Gender Role' sub-dimension. On the other hand, Kodan Çetinkaya (2013) mentioned that students whose mothers have primary school and high school degrees have more egalitarian gender attitudes compared to those whose mothers are literate without a degree. Additionally, in another study with university students, it was noted that students whose mothers have primary school degrees perceive themselves as less egalitarian compared to those whose mothers have university degrees (Arıcı, 2011). Furthermore, two separate relational studies have shown that as mothers' education level increases, students' egalitarian gender role attitudes also increase (Aylaz et al., 2018). The Gender Roles Attitude Scale; In the 'Female Gender Role' sub-dimension, it has been shown that as mothers' education level increases, students' egalitarian attitudes also increase (Direk and Irmak, 2017). Additionally, in AÇEV's Report on Related Fatherhood and Determinants in Turkey, it was stated that the mother's education level affects the related fatherhood behavior. When the disciplinary behaviors applied by fathers to their children aged 4-10 are compared, a significant difference was found between those whose wives have high school and above education levels and those whose wives have middle school and below education levels (effect size 14%). It was observed that fathers apply less punitive behavior to their children when the mother's education level is high, and there is a positive relationship between maternal education and father-child communication (AÇEV, 2017a).

In conclusion, as a mother's level of education increases, individuals tend to develop more equal views on gender roles. The importance of a parent's education in shaping their children's perspectives has been emphasized (Atış, 2010). Therefore, educating girls who will become future mothers is seen as essential in raising children who hold more egalitarian views. Despite efforts to promote girls' enrollment in schools in Turkey, they still face several obstacles such as poverty, child marriage, and child labor, among others (Sayılan, 2012).

Regarding the variable of father's education level, no significant difference was observed in the gender role attitudes of students in the 1st and 4th grades of the Preschool and Primary School Teaching Program. Some research studies conducted with university students have found findings that support the findings of this research (Aylaz et al., 2014; Dinç and Çalışkan, 2016; Güzel, 2016). On the other hand,

some studies do not align with this finding. For example, Çavdar (2013) found in a study with university students that an increase in students' father's educational level also increased the participants' egalitarian gender attitude scores; Sönmez et al. (2018) stated in their study that students whose fathers graduated from high school, bachelor's, and postgraduate levels had more egalitarian gender-role attitudes than students whose fathers graduated from middle school or lower educational levels. The differences among the findings of the studies may stem from the participants' family structures. Nowadays, in some families, both parents work and take on roles in childcare, while in others, only the father works and childcare is still primarily the responsibility of the mother. According to the Early Childhood Care and Preschool Education Participation in Turkey survey, 72% of the mothers participating in the research stated that they primarily engage in "activities related to children" by themselves, while 20% stated that they do it together with their spouses. The report concluded that the picture emerging regarding childcare in Turkey indicates that "childcare in Turkey is largely perceived as a women's issue" (AÇEV, 2017b). This situation may explain why children raised in traditional family structures where childcare is considered primarily the mother's duty are not significantly influenced by the father's educational level.

In summary, the study revealed that the attitudes of students in preschool and primary school teaching programs towards gender roles vary based on gender, grade level, and maternal education level. The differentiation by gender may indicate resistance among men towards gender equality, reflecting efforts to maintain their status in society and within the family. Furthermore, considering that men tend to have less egalitarian attitudes, issues such as violence, murder, harassment, and abuse against women may stem from traditional perspectives. Additionally, the importance of educating girls, who will be the mothers of the future, has once again been highlighted for both raising awareness of their rights and raising more egalitarian children. The fact that final-year students are more egalitarian than first-year students indicates the effectiveness of university education in cultivating more egalitarian individuals through both formal and implicit programs. Although the study demonstrates that the majority of preschool and primary school teacher candidates have egalitarian gender perceptions, the data collected based on self-reporting may be influenced by social desirability bias. It should also be noted that there is a group of teacher candidates with less egalitarian attitudes.

To cultivate individuals with more egalitarian gender perceptions in Turkish society, it is important to provide teacher candidates with gender-related courses within the scope of their undergraduate education. New courses with this aim can be added to education faculty programs, and student groups can be formed to provide seminars and various trainings. Within these trainings, the primary goal should be to instill more egalitarian attitudes in male students. Considering that some children may not receive university education, the importance of adding content to middle and high school curricula to enhance gender equality becomes evident. The "Dads are Here for Equality" Project, conducted by AÇEV between 2016 and 2019, aimed to bring about long-term changes in the attitudes of adult men towards gender equality and violence against women/girls. The training sessions led to positive changes in fathers' communication and spending time with their children, as well as increased participation in school meetings and events. However, limited participation in childcare responsibilities was reported even after the training (AÇEV, 2019, p. 10), indicating that earlier education may be more effective. Given the influence of teacher candidates' maternal education levels on their attitudes, it is recommended to develop education policies focusing on the education of girls, who will be the mothers of the future, and to ensure that it reaches a sufficient and high-quality level. Furthermore, education on gender attitudes can be organized for parents under the principle of lifelong learning.

Since this study is cross-sectional, conducting longitudinal studies to understand the changes in gender roles over time and the variables that influence them could provide a more in-depth examination.

Additionally, utilizing mixed research methods and conducting interviews with teacher candidates to support quantitative findings could contribute to a more comprehensive explanation of the problem.

Researchers' Contribution Statement

The contribution of the researchers to the study is equal.

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Conflict of Interest Statement

There is no conflict of interest among the authors in this study.

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