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Öğretmen Adaylarının Toplumsal Cinsiyet Eşitliği Algısı ve Teknoloji Kullanım Seviyeleri Arasındaki İlişki

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Öz

Bu araştırmanın amacı öğretmen adaylarının toplumsal cinsiyet eşitliği algısı ve teknoloji kullanım seviyeleri arasındaki ilişkinin bazı değişkenler açısından incelenmesidir. Bu yüzden nicel bir araştırma yöntemi benimsenmiş olup betimsel tarama modeli kullanılmıştır. Verilerin toplanmasında üç ayrı araç kullanılmıştır. Bu araçlardan ilki demografik bilgi formu ikincisi Bilgisayar ve Öğretim Teknolojileri Toplumsal Cinsiyet Eşitliği Algı Ölçeği ve üçüncüsü de Bilgi ve İletişim Teknolojileri Kullanımı Seviyeleri Belirleme Ölçeği'dir. Yapılan bu araştırma 2021-2022 akademik yılı içerisinde Necmettin Erbakan Üniversitesi, Ahmet Keleşoğlu Eğitim Fakültesinde farklı bölümlerde öğrenim gören 288 öğretmen adayına uygulanmıştır. Araştırma verileri bir istatistik programı ile çözümlenmiştir. Yapılan istatistiksel analizler sonucunda çalışma grubunun toplumsal cinsiyet eşitliği algısı durumları cinsiyet değişkenine göre anlamlı bir farklılık gösterdiği gözlemlenmiştir. Bununla birlikte teknoloji kullanım seviyeleri durumları cinsiyet değişkenine göre anlamlı bir farklılık göstermediği gözlemlenmiştir. Çalışma grubunun toplumsal cinsiyet eşitliği algısı durumlarının ağırlıklı not ortalaması değişkenine göre anlamlı bir farklılık gösterdiği gözlemlenmiştir. Aynı zamanda teknoloji kullanım seviyeleri durumlarının ağırlıklı not ortalaması değişkenine yönelik aldıkları puanlar arasında anlamlı bir farklılık gösterdiği gözlemlenmiştir. Çalışma grubunun toplumsal cinsiyet eşitliği algısı durumlarının günlük internet kullanım süresi değişkenine göre anlamlı bir farklılık gösterdiği gözlemlenmiştir. Ek olarak teknoloji kullanım seviyeleri durumlarının günlük internet kullanım süresi değişkenine yönelik aldıkları puanlar arasında anlamlı bir farklılık gösterdiği gözlemlenmiştir.

Perception of Gender Equality of Teacher Candidates and the Relationship Between Technology Using Levels

Keywords
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Abstract

The aim of this study is to examine the relationship between pre-service teachers' perception of gender equality and their level of technology use in terms of some variables. Therefore, a quantitative research method was adopted and a descriptive survey model was used. Three different tools were used to collect the data. The first of these tools is the demographic information form, the second is the Computer and Instructional Technologies Gender Equality Perception Scale, and the third is the Information and Communication Technologies Usage Levels Scale. This research was applied to 288 teacher candidates studying in different departments at Necmettin Erbakan University, Ahmet Keleşoğlu Faculty of Education in the 2021-2022 academic year. Research data were analyzed with a statistical program. As a result of the statistical analyzes, it was observed that the gender equality perception status of the study group showed a significant difference according to the gender variable. However, it was observed that technology use levels did not show a significant difference according to the gender variable. It was observed that the gender equality perception status of the study group showed a significant difference according to the weighted grade point average variable.

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Genişletilmiş Özet

Giriş

Günümüzde eğitimde bilgisayara dayalı teknolojilerin hem eğiticiler hem de öğrenciler tarafından aktif şekilde kullanımı her geçen gün daha önemli hale gelmektedir (Russell, Bebell, O.Dwyer, & O.Connor, 2003). Birçok öğretmen ve araştırmacılar aktif ve etkili şekilde kullanılan öğretim teknolojilerinin eğitim verilen kurumlarda daha faydalı olacağı konusunda hem fikir olmuşlardır (Jonassen & Reeves, 1996; Means, 1994; Çağıltay & Çakıroğlu, 2001). Öğretmenler ve okul idarecilerinin eğitim ve öğretimde ihtiyaç uyulan teknolojinin kullanımı hakkında ki görüşleri alınmış ve de sınıflarda kullanılan teknolojinin sınıf yönetimini pozitif şekilde etkilediği, öğrencileri yapılması gereken sınav ve değerlendirme bölümlerini daha çabuk şekilde yapılabildiği, eğiticilerin sorumlu olduğu işlerde onlara yardımcı olduğu kanısına varılmıştır (Döğer, 2016).

Teknoloji faydalı biçimde kullanılırsa, öğretmenlerin işledikleri konuları daha kolay anlatabilmeleri için yeni materyaller ortaya çıkarmalarına yardım eder ve hem öğretmen hem de öğrenciler için çeşitli fırsatlar sunar (Schmitz, Prescott, & Hunt, 1996). Eğitimde kullanılan teknoloji sayesinde sınıf ortamında olumlu bir öğrenme havası oluşacak ve bunun neticesinde de öğretmenlerde daha hevesli ve istekli bir şekilde derslerini işleyecektir (Güneş & Buluç, 2017). Aynı zamanda, teknolojinin sınıf ortamında etkili ve faydalı şekilde kullanılması ile birlikte öğrencilerinde daha iyi anlayıp kavramalarına olumlu yönde etki eder (Babacan & Ören, 2017). Eğitim ortamında kullanılan teknolojik materyaller sayesinde öğrencinin birden çok duyusuna hitap edildiği için öğrenme süreci zenginleşir, bu zaman içerisinde yapılan etkinlikler daha eğlenceli hale gelir ve en önemlisi de çocuklar keşfederek öğrendiği için kalıcı öğrenme oluşur (Kuzgun & Özdinç, 2017). öğretmen adaylarının üniversite de aldıkları eğitimlerde bilgi ve iletişim teknolojileri kullanmanın, günümüzde ihtiyaç duyulan birey özellikleri ile donatılmasına katkıda bulunacağını söylemiştir. Öğretmen ve öğretmen adaylarının etkin olabilmeleri için teknolojiyi anlattıkları alanlarda faydalı olacak şekilde kullanabilecek yeterliliklere sahip olmaları gerekmektedir (Meriç, 2014). Ayrıca, öğretmenler kendi derslerinde teknolojiyi ve pedagojiyi en doğru şekilde entegre ederek öğrenciye en faydalı olacak şekilde kullanmaları beklenmektedir (Demir, Özmantar, Bingölbali & Bozkurt, 2011). Öğretmenlerin bilişim teknolojilerini eğitim ve öğretim aşamasına etkili bir şekilde entegre edebilmesi için öğretmenin yeterli pedagojik bilgisi, teknolojik bilgisi ve alan bilgisi olması gerekmektedir (Jang & Tsai, 2012). Bu akademik çalışmanın önemi de öğretmen adaylarının bilgi ve iletişim seviyelerini belirlemek ve daha önce yapılmış olan bu tarz çalışmalara katkıda bulunup farklı bir bakış açısı getirmektir. Bu akademik çalışmanın önemi öğretmen adaylarının toplumsal cinsiyet eşitliği algısı ve teknoloji kullanım seviyeleri arasındaki ilişkiyi inceleyerek elde edilen bulgular ile bu alana yeni bir bakış açısı getirerek literatüre olumlu bir katkı sağlayacak olmasıdır.

Yöntem

Araştırma da öğretmen adaylarının toplumsal cinsiyet eşitliği algısı ve teknoloji kullanım seviyeleri arasındaki ilişkinin incelenmesi amaçlandığından nicel bir araştırma yöntemi benimsenmiş olup betimsel tarama modeli kullanılmıştır. Betimsel tarama modelleri, geçmişten olmuş veya halen aktif şekilde devam eden bir olayı, devam ettiği şekilde anlatmayı amaçlayan araştırma yöntemidir (Karasar, 2009). Betimsel tarama, geniş gruplar üzerinde yürütülen, gruptaki bireylerin bir olgu ve olayla ilgili görüşlerinin, tutumlarının alındığı, olgu ve olayların

tanımlanmaya çalışıldığı araştırmalardır (Karakaya, 2012). Betimsel tarama yöntemi nesnelerin, toplumların, kurumların yapısını ve olayların işleyişini betimlemek maksadıyla kullanılır (Cohen, Manion, & Morrison, 2007).

Bulgular

Bilgisayar ve Öğretim Teknolojileri Toplumsal Cinsiyet Eşitliği Algı (BÖTE-TCE Algı) durumları cinsiyet değişkenine göre değişmektedir ve Bilgi ve İletişim Kullanımına Yönelik Tutum Ölçeği durumları cinsiyet değişkenine göre değişmemektedir. Ayrıca, çalışma grubunun Bilgisayar ve Öğretim Teknolojileri Toplumsal Cinsiyet Eşitliği Algı (BÖTE-TCE Algı) Ölçeği durumlarının ağırlıklı not ortalaması değişkenine göre değişmektedir. Bu farklılığın hangi gruplardan kaynaklandığını, bir başka değişle farklılığı hangi grupların yaptığını belirlemek amacıyla yapılan LSD testi sonucunda, farklılığın 1-2 arasında ile 3-4 arasında (1-2 arasında lehine) ve 3-4 arasında ile 1-2 arasında (1-2 arasında lehine) olduğu; olduğu görülmektedir. Çalışma grubunun Bilgisayar ve Öğretim Teknolojileri Toplumsal Cinsiyet Eşitliği Algı (BÖTE-TCE Algı) Ölçeği durumlarının günlük internet kullanımı değişkenine göre ilişkisiz örneklemler için tek faktörlü varyans analizi kullanılarak elde edilen bulgulara göre çalışma grubunun Bilgisayar ve Öğretim Teknolojileri Toplumsal Cinsiyet Eşitliği Algı (BÖTE-TCE Algı) Ölçeği durumlarının günlük internet kullanımı değişkenine yönelik aldıkları puanlar arasında anlamlı bir farklılık vardır [$F(3\text{-}284)= 3{,}348$, $p < .05$]. Diğer bir ifadeyle çalışma grubunun Bilgisayar ve Öğretim Teknolojileri Toplumsal Cinsiyet Eşitliği Algı (BÖTE-TCE Algı) Ölçeği durumlarının günlük internet kullanımı değişkenine göre değişmemektedir. Çalışma grubunun Bilgisayar ve Öğretim Teknolojileri Toplumsal Cinsiyet Eşitliği Algı (BÖTE-TCE Algı) Ölçeği durumlarının Aile Sosyo-Ekonomik Düzeyi değişkenine göre değişmemektedir. Ayrıca, çalışma grubunun Bilgi ve İletişim Kullanımına Yönelik Tutum Ölçeği durumlarının ağırlıklı not ortalaması değişkenine yönelik aldıkları puanlar arasında anlamlı bir farklılık vardır [$F(2\text{-}285)= 4{,}537$, $p < .05$]. Diğer bir ifadeyle çalışma grubunun Bilgi ve İletişim Kullanımına Yönelik Tutum Ölçeği durumlarının ağırlıklı not ortalaması değişkenine göre değişmektedir. Bununla birlikte, çalışma grubunun Bilgi ve İletişim Kullanımına Yönelik Tutum Ölçeği durumlarının Aile Sosyo-Ekonomik Düzeyi değişkenine yönelik aldıkları puanlar arasında anlamlı bir farklılık yoktur [$F(2\text{-}285)= 1{,}188$, $p < .306$]. Diğer bir ifadeyle, çalışma grubunun Bilgi ve İletişim Kullanımına Yönelik Tutum Ölçeği durumlarının Aile Sosyo- Ekonomik Düzeyi değişkenine göre değişmemektedir.

Öneriler

Yapılan araştırma sonucunda elde edilen veriler doğrultusunda gelecekte yapılacak araştırmalar için bazı önerilerde bulunulabilir: Farklı illerde yer alan farklı üniversite ve fakültelerde öğrenim görmekte olan öğrencilerle de araştırma yapılarak elde edilen sonuçlar mukayese edilebilir. Öğretmen adaylarının toplumsal cinsiyet eşitliği algısı ve teknoloji kullanım seviyeleri arasındaki ilişkinin incelenmesi için farklı araştırma yöntemlerinden de faydalanılabilir. Eğitimde teknoloji kullanımı ve toplumsal cinsiyet eşitliği ile ilgili yapılacak uygulamalar hem öğretmen adayları hem de öğretim üyeleri dâhil edilmeli böylece tüm ilgililer arasında koordineli bir çalışma oluşacaktır. Eğitim fakültelerindeki konuyla ilgili seçmeli ders sayılarının artırılması ve öğrencilerin dersleri gönüllülük esasında seçmeleri önerilebilir.

Introduction

Developments and innovations in the field of technology provide great convenience in different sectors such as education, banking, communication and health in human life and are used in these areas especially due to features such as processing, storing, sharing and accessing data (Tekinarslan, 2008). While these developments in science and technology affect society and individual life, education has undoubtedly one of the biggest shares of this effect (Ersoy, 2003). Contemporary societies use technology in various fields, especially in education, in order to be effective in today's time called "Information Society" and to have a greater say against other countries (İmer, 2000).

Today, the active use of computer-based technologies in education by both educators and students is becoming more important day by day (Russell, Bebell, O.Dwyer, & O.Connor, 2003). If technology is used beneficially, it helps teachers create new material to explain their topics more easily and provides opportunities for both teachers and students (Schmitz, Prescott and Hunt, 1996). Thanks to the technology used in education, a positive learning atmosphere will be created in the classroom environment, and as a result, teachers will teach their lessons more enthusiastically and willingly (Güneş & Buluç, 2017). At the same time, with the effective and beneficial use of technology in the classroom environment, it has a positive effect on students' better understanding and comprehension (Babacan & Ören, 2017). Thanks to the technological materials used in the educational environment, the learning process is enriched as the student's multiple senses are addressed, the activities done in this time become more fun, and most importantly, permanent learning occurs because children learn by exploring (Kuzgun & Özdinç, 2017).

Gender is the roles, concepts, expectations and values related to how society views, thinks, perceives, and expects individuals to behave as two different genders, male and female (Dökmen, 2004). Gender equality, on the other hand, emphasizes the equal benefit of men and women from the rights, services and opportunities available both in the society they live in, in their own environment and in their families (World Health Organization, 1998).

The ongoing education systems today play a key role in the formation of gender stereotypes and thoughts that are dominant in both the information processes given in the schools and the cultural environment offered by the school, because education can never be neutral and information is always meaningful, sometimes maintaining the hegemonic system and sometimes maintaining this order. While the education hegemonic system sometimes maintains it, sometimes it questions this order (Apple, 2000).

In order to eliminate gender inequality in the field of education, the quality of education must first be high. If the existing education system discriminates against gender or does not make it possible for the education of male and female students to have a socially and personally valuable structure, this means that the current system is missing some of the basic building blocks of quality (Berber, 2021). In order to eliminate gender inequality in education, the dimensions of the quality of education, the nature of the indispensable tools and equipment of education, the relations between the teacher and the student, the content and curriculum of various tools and equipment, and finally, the resources used in the course should be chosen and used in a gender-sensitive manner (Aikman & Unterhalter, 2007).

Since the behaviors of teachers, who are one of the cornerstones of education, both personally and professionally, directly affect the students, these attitudes and behaviors are very important (Koçak & Kaygusuz, 2019). The

attitudes and behaviors of many teachers towards female and male students can be different, and as a result, they can be effective in the formation of gender stereotypes on students (National Union of Teachers, 2013). In order to fine-tune the education system to gender equality, teachers should both have sufficient knowledge about sexual development and education and be aware of their stereotypes about gender roles (Bayramoğlu, 2015).

Equipping the teacher candidates with the necessary equipment in the field of technology and computer use is considered as a factor that significantly affects the quality of education and training (Usta & Korkmaz, 2010). Likewise, it is very important for teacher candidates to have the necessary knowledge and skills in the field of computer technologies, both for their personal advancement and for preparing their students for the situations they will need when they become teachers in the future (Tekinarslan, 2008). Technology not only increases the interaction of teacher candidates with students, but also affects their learning attitudes in a positive way (Doering & Beach, 2002). For this reason, computer and communication technologies are very important tools when they receive the necessary training for teaching.

Purpose of the research

The aim of this study is to examine the relationship between pre-service teachers' perception of gender equality and their level of technology use. For this purpose, answers to these sub-problems were sought in the study.

1) Does the relationship between pre-service teachers' perception of gender equality and technology use levels show a significant difference according to gender?
2) Does the relationship between pre-service teachers' perception of gender equality and their level of technology use show a significant difference according to academic achievement?
3) Does the relationship between pre-service teachers' perception of gender equality and technology use levels show a significant difference according to daily internet usage time?
4) Does the relationship between pre-service teachers' perception of gender equality and technology use levels show a significant difference according to daily internet usage time?
5) Does the relationship between pre-service teachers' perception of gender equality and their level of technology use differ significantly according to the socioeconomic structure of the family?

Recently, developing technology and education have become an inseparable whole and have become unthinkable independently of each other (Simon, 1983). With the integration of the technology used in education, the need for more use of technological tools in the education and training process has come to light. The reason for this is that when technological tools are used in teaching methods, students listen to the lesson more carefully than traditional teaching methods and create an environment for them to learn the subject in depth (Kenar, 2012).

Today, the important points that can solve gender inequality are politics, law and education. However, the more active use of political rights, the use of law to establish the perception of gender equality and the creation of more educational opportunities can be the key points in the solution of gender inequality, and on the contrary, it can re-create gender inequality. It has been stated that the task undertaken by the school and the teacher in the education system, the tools used and the education system are effective in the reoccurrence of sexist stereotypes and their importance is mentioned (Esen, 1998; Gümüşoğlu, 2013; Tietz, 2007).

The primary aim of gender equality policies in education is to get rid of traditional gender roles and stereotypes. Gender equality in education has two branches. First of all, it is about the opportunities offered by the education system and school environment to both women and men. The second is related to how the curriculum, books and school system, which are the educational content of gender equality in the education system, are established. In this case, one of the most important duties falls on teachers, because it is very important that teachers' attitudes and behaviors treat both genders equally and fairly (Sayılan, 2012; Sayılan, 2014).

The importance of this academic study is that it will make a positive contribution to the literature by bringing a new perspective to this field with the findings obtained by examining the relationship between pre-service teachers' perception of gender equality and technology use levels.

Method

Research design

Since the aim of the research was to examine the relationship between pre-service teachers' perception of gender equality and their level of technology use, a quantitative research method was adopted and a descriptive survey model was used. Descriptive survey models are research methods that aim to describe an event that happened in the past or is still actively going on, as it continues (Karasar, 2009).

Study Group of the Research

This research was applied to teacher candidates studying in different departments at Necmettin Erbakan University, Ahmet Keleşoğlu Faculty of Education in the 2021-2022 academic year. As a result of the examinations made on the collected questionnaires and scale forms, no incomplete or erroneous operation was found. As a result, the collected data were analyzed in this context.

Demographic data of the participants are given in tables below.

Table 1. Data on the Gender of the Teacher Candidates

Gender	Frequency (n)	Percent (%)
Female	165	57.3
Male	123	42.7
Total	288	100.0

As can be seen in Table 3.1, 57.3% (N=165) of the pre-service teachers who constitute the study group are female pre-service teachers and 42.7% (N=123) are male pre-service teachers.

Data Collection Tools

Before using data collection tools, ethical rules regarding confidentiality were specified and how to fill in the given scales was explained. The obtained data were analyzed in a statistical program. Three different tools were used to collect the data. The first of these tools is the "demographic information form", the second is the "Computer and

Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale" and the third is the "Information and Communication Technologies Usage Level Determination Scale".

Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale; The Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale developed by Baran, Siyez & Kaptanoğlu (2018) was used as a data collection tool. There are a total of 14 items in this survey, which will be used to measure the gender equality perception of teacher candidates in computer and instructional technologies. In the 5-point Likert-type scale, a rating method was used for each question as strongly disagree, disagree, disagree, agree, strongly agree. In order to obtain the reliability of the developed scale, some item statistics were found and internal consistency coefficients were obtained. As a result of the calculations, the Cronbach Alpha coefficient was found to be .93. Looking at the results, it can be stated that the scale has a good level of reliability (Baran, Siyez, & Kaptanoğlu, 2018). First of all, a literature review was conducted and researches on gender equality and perception, technology use and levels were examined. Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale, developed by Baran, Siyez & Kaptanoğlu (2018), whose validity and reliability has been proven according to these reviews, and Information and Communication Technologies Use Scale developed by Kultuca, Arslan, & Özpınar (2010) It was selected by obtaining the necessary permissions for the Levels Determination Scale. In addition, a personal information form containing the information to be obtained from teacher candidates was also determined. These selected scales were transferred to the online environment by the researcher and presented to the determined teacher candidates online. No problems were encountered during the application.

Scale for Determining Levels of Information and Communication Technologies Usage; The Information and Communication Technologies Usage Levels Scale developed by Kultuca, Arslan, & Özpınar (2010) was used to determine the levels of information and communication technologies use of teacher candidates. There are a total of 30 items in this questionnaire. In the 4-point Likert-type scale, the rating method of strongly disagree, partially disagree, agree, strongly agree was used for each question. In order to obtain reliability in this scale, internal consistency coefficients were obtained by finding some item statistics, and as a result of these calculations, the Cronbach Alpha coefficient emerged as .91 (Kultuca, Arslan, & Özpınar, 2010).

Personal Information Form Another data collection tool is the personal information form in which the demographic information of the study group teacher candidates is obtained. In the demographic data collection tool, questions were asked and demographic information was obtained in order to determine the gender, academic grade averages, daily internet usage times, family socio-economic level and education level of the families.

In order to carry out the research, firstly, online research permission was obtained from the Dean's Office of Necmettin Erbakan University Ahmet Keleşoğlu Education Faculty.

Data Analysis

Demographic information, frequency, percentage, arithmetic mean and standard deviation of the prospective teachers in the study group were explained with descriptive statistics. In the analysis of the data, the normality of the obtained distributions was examined in order to determine whether the relationship between pre-service teachers' perception of gender equality and technology use levels differ according to the variables. Then,

percentage and frequency analysis were used for the analysis of demographic information. Independent sample t-test was used to determine the gender, academic grade averages, daily internet usage time, family socio-economic level and education level of the families of the pre-service teachers. In addition, a single factor analysis of variance (ANOVA) test was used to find the relationship between demographic data in order to reveal the status of the groups. In the analysis of the data, the level of significance was taken as .05 and the data were analyzed with a statistical program.

Table 2. Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale Skewness and Kurtosis results.

Skewness	.180	.383
Kurtosis	-.476	.750

The fact that the Skewness and Kurtosis results, which is one of the valid methods to reveal whether the data collected with the data collection tools from the study group, show normal distribution or not, shows that the collected data show a normal distribution and meet the parametric test assumptions. Since the number of the study group was N= 288 and the Skewness and Kurtosis values were -1.5 to +1.5, it was revealed that the collected data showed a normal distribution, no left or right skewness in the graphs, and the use of parametric tests. Since the number of the study group was N= 288 and the Skewness and Kurtosis values were -1.5 to +1.5, it was revealed that the collected data showed a normal distribution, no left or right skewness in the graphs, and the use of parametric tests.

Findings

Findings Regarding the Gender Variable

Table 4 shows the t-test results of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-Gender Perception) Scale and Attitude Scale towards the Use of Information and Communications, according to the gender variable.

Table 4. The t-test results of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-Gender Perception) Scale and Attitude Scale towards the Use of Information and Communications according to gender variable.

	Gender	N	$\overline{X}$	S	Sd	T	P
Ceit Tce Perceptıontotal	Female	165	31.4909	10.70082	286	-6.311	.0
	Male	123	40.1057	12.40691			
Bikytö Total	Female	165	80.9212	10.21118	286	-1.095	.274
	Male	123	82.4146	12.92597			

As seen in Table 4, according to the findings obtained by using the t-test for unrelated samples, the study group's Computer and Instructional Technologies Perception of Gender Equality (CEIT-TCE Perception) (Female =31.49; Male =40.10) was divided into gender variable. shows a significant difference according to ($p<.05$). The Attitude

Scale towards Information and Communication Use of the study group did not differ significantly according to the gender variable (Female =80.92; Male =82.41). In other words, the Computer and Instructional Technologies Perception of Gender Equality (CEIT-TCE) status of the study group varies according to the gender variable, and the Attitudes towards the Use of Information and Communication Scale status do not change according to the gender variable.

Findings Regarding the Weighted Grade Point Average Variable

Table 5 shows the single-factor analysis of variance (ANOVA) findings on whether the study group's status of the Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale and the Attitudes towards the Use of Information and Communication Scale shows a significant difference according to the weighted grade point average variable.

Table 5. One-factor analysis of variance (ANOVA) results of the study group's Computer and Instructional Technologies Perception of Gender Equality (CEIT-TCE) Scale and Attitudes towards the Use of Information and Communication Scale according to the weighted grade point average variable.

Weighted Grade Point Average Variable	Source of Variance	Sum of Squares	sd	Mean Squares	F	p
Ceit Tce Perception Total	Intergroup	1021.849	2	510.924	3.486	.032
	Ingroups	41766.814	285	146.550		
	Total	42788.663	287			
Bikytö Total	Intergroup	1161.398	2	580.699	4.537	.011
	Ingroups	36479.599	285	127.999		
	Total	37640.997	287			

As seen in Table 5, according to the findings obtained by using one-factor analysis of variance for unrelated samples, according to the weighted grade point average variable of the Computer and Instructional Technologies Gender Equality Perception (CEIT-Gender Perception) Scale and Attitudes towards the Use of Information and Communication Scale of the study group. There is a significant difference between the scores of the study group for the weighted grade point average variable of the Computer and Instructional Technologies Gender Equality Perception (CEIT-Gender Perception) Scale status [$F(2\text{-}285)= 3.486$, $p < .05$]. In other words, it varies according to the weighted grade point average variable of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale status.

In addition, there is a significant difference between the scores of the study group for the weighted grade point average variable of the Attitude Scale towards the Use of Information and Communication [$F(2\text{-}285)= 4{,}537$, $p < .05$]. In other words, the Attitude Scale towards the Use of Information and Communication of the study group varies according to the weighted grade point average variable.

Findings Regarding Daily Internet Usage Variable

Table 6 shows the single-factor analysis of variance (ANOVA) findings of the study group regarding whether the statuses of the Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE) Scale and the Attitude Scale towards Information and Communication Use differ significantly according to the daily internet use variable.

Table 6. Single-factor analysis of variance (ANOVA) results of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale and Attitude Scale towards Information and Communication Use status according to daily internet use variable.

Daily Internet Usage	Source Of Variance	Sum Of Squares	Sd	Mean Squares	F	P
Ceit Tce Perception Total	Intergroup	1461.547	3	487.182	3.348	.020
	Ingroups	41327.116	284	145.518		
	Total	42788.663	287			
Bikytö Total	Intergroup	880.736	3	293.579	2.268	.081
	Ingroups	36760.260	284	129.438		
	Total	37640.997	287			

As seen in Table 6, according to the findings obtained by using one-factor analysis of variance for unrelated samples according to daily internet use variable of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale status There is a significant difference between the scores of the Gender Equality Perception (CEIT-TCI Perception) Scale statuses for the daily internet use variable [$F(3\text{-}284)= 3.348$, $p < .05$]. In other words, the status of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale does not change according to the variable of daily internet use.

In addition, there is a significant difference between the scores of the study group's Attitudes Towards Information and Communication Use Scale for daily internet use variable [$F(3\text{-}284)= 2.268$, $p < .081$]. In other words, the Attitude Scale towards Information and Communication Use of the study group varies according to the daily internet usage variable.

Findings Regarding the Family Education Level Variable

Table 7 shows the single-factor analysis of variance (ANOVA) findings about whether the study group's status of Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale and Attitude Scale towards the Use of Information and Communication shows a significant difference according to the family education level variable.

Table 7. One-factor analysis of variance (ANOVA) results of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale and Attitude Scale towards Information and Communication Use, according to the family education level variable.

Family Education Level	Source Of Variance	Sum Of Squares	Sd	Mean Squares	F	P
Ceit Tce Perception Total	Intergroup	106.279	2	53.139	.355	.702
	Ingroups	42682.384	285	149.763		
	Total	42788.663	287			
Bikytö Total	Intergroup	869.035	2	434.517	3.368	.036
	Ingroups	36771.962	285	129.024		
	Total	37640.997	287			

As can be seen in Table 7, according to the findings obtained by using one-factor analysis of variance for unrelated samples according to the family education level variable of the Computer and Instructional Technologies Gender Equality Perception (CEIT-Gender Perception) Scale status of the study group, There is no significant difference between the scores of the Gender Equality Perception (CEIT-TCI Perception) Scale statuses for the family education level variable [F(2-285)= .355, p > .702]. In other words, the status of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale does not change according to the family education level variable.

In addition, there is a significant difference between the scores of the study group's Attitudes Towards Information and Communication Use Scale for the family education level variable [F(2-285)= 3.368, p < .036]. In other words, the Attitude Scale towards Information and Communication Use of the study group varies according to the family education level variable.

As a result of the LSD test conducted to determine which groups caused this difference, in other words, which groups made the difference, it was found that the difference was between Primary and High School (in favor of Primary Education) and between Primary and University (in favor of Primary Education); In addition, it is seen that the difference is between High School and Primary Education (in favor of Primary Education) and between University and Primary Education (in favor of Primary Education).

Findings Regarding the Variable of Family Socio-Economic Level

Table 8 shows the results of the single-factor analysis of variance (ANOVA) of the study group to determine whether the statuses of the Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE) Scale and the Attitude Scale towards Information and Communication Use differ significantly according to the Family Socio-Economic Level variable.

Table 8. One-factor analysis of variance (ANOVA) results of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale and Attitudes towards Information and Communication Use Scale statuses according to the Family Socio-Economic Level variable.

Family Socio-Economic Level	Source Of Variance	Sum Of Squares	Sd	Mean Squares	F	P
Ceıt Tce	Intergroup	484.958	2	242.479	1.634	.197
	Ingroups	42303.705	285	148.434		
	Total	42788.663	287			

Perception Total						
Bikytö Total	Intergroup	311.155	2	155.577	1.188	.306
	Ingroups	37329.842	285	130.982		
	Total	37640.997	287			

As seen in Table 8, according to the findings obtained by using one factor analysis of variance for unrelated samples according to the Family Socio-Economic Level variable of the Computer and Instructional Technologies Gender Equality Perception (CEIT-Gender Perception) Scale status of the study group, There is no significant difference between the scores of the Gender Equality Perception (CEIT-GLO Perception) Scale statuses for the Family Socio-Economic Level variable [F(2-285)= 1.634, p > .197]. In other words, the status of the study group's Computer and Instructional Technologies Gender Equality Perception (CEIT-TCE Perception) Scale does not change according to the Family Socio-Economic Level variable.

However, there was no significant difference between the scores of the study group's Attitudes Towards Information and Communication Use Scale for the Family Socio-Economic Level variable [F(2-285)= 1.188, p < .306]. In other words, the Attitude Scale towards Information and Communication Use of the study group does not change according to the Family Socio-Economic Level variable.

Discussion and Conclusion

As a result of the study, if the first question of the research, the relationship between the gender equality perception of the teacher candidates and the level of technology use, is evaluated, it was observed that the gender equality perception status of the study group showed a significant difference according to the gender variable. However, it was observed that technology use levels did not show a significant difference according to the gender variable.

Similarly, in Yılmaz's (2016) study, it was determined that teachers had a high level of sexist approaches in these dimensions. Akbulut (2020) studied the gender equality perception levels of university students and concluded that there is a significant difference in participant views according to the gender variable.

In some studies, conducted in the literature, it has been revealed that there is no significant difference according to the gender variable related to gender equality. In their research, Şahin, Korkmaz & Çoban (2018) stated that while pre-school teacher candidates defined gender equality, they mostly stated that men and women should have equal opportunities. Ogirima, Emilia, & Juliana (2017) revealed that the gender variable did not affect teachers' attitudes and competencies towards assistive technologies. Barut (2015) concluded in his study that the mean scores of technology attitudes in education do not differ significantly according to teacher gender.

There are studies that show the opposite of the current research. Günüç & Taşkın (2005) found in their research that male pre-service teachers have more positive attitudes towards technology use by pre-service teachers than female pre-service teachers. As a result of the study, if the second question of the research, the relationship between the gender equality perception of the teacher candidates and the level of technology use is evaluated, it is observed that the gender equality perception status of the study group shows a significant difference according to the weighted grade average variable. At the same time, it was observed that there was a significant difference between the scores of technology use levels and the weighted grade point average variable.

As a result of the study, if the third question of the research, the relationship between the gender equality perception of the teacher candidates and the level of technology use, there is a significant difference according to the daily internet usage time, it was observed that the gender equality perception status of the study group showed a significant difference according to the daily internet usage time variable. . In addition, it has been observed that there is a significant difference between the levels of technology use and the scores they get for the variable of daily internet usage time.

As a result of the study, if the fourth question of the research, the relationship between the gender equality perception of the teacher candidates and the level of technology use, is evaluated whether there is a significant difference according to the education level of the families, it was observed that the gender equality perception status of the study group did not show a significant difference according to the education level of the families. On the other hand, it was observed that there was a significant difference between the levels of technology use and the scores of the families for the education level variable. Similar to the results obtained in this study, it was determined in Atış's (2010) study that students whose mothers were graduates of any school adopted egalitarian roles. Zeyneloğlu (2008) emphasized in his study that students whose fathers are literate (primary school, secondary school, high school, university) have similar egalitarian gender role attitudes compared to students whose fathers are illiterate. Dinç and Çalışkan (2016) stated in their research that there was no significant difference between the total attitude scores of university students regarding gender roles according to their father's education level. Also, Gümüşoğlu's (2004) study revealed that although the education level of their mothers is quite high, the students adopt traditional gender roles and the students consider traditional gender roles appropriate for their mothers. There are studies that show the opposite of the current research. It has been determined that the technology attitudes and individual innovativeness levels of Social Studies teacher candidates do not differ according to the education levels of their mothers and fathers (Özgür, 2013).

As a result of the study, if the last question of the research, the relationship between the gender equality perception of the teacher candidates and the level of technology use, there is a significant differentiation according to the socioeconomic structure of the family, it was observed that the gender equality perception status of the study group did not show a significant difference according to the socioeconomic structure of the family. At the same time, it was observed that technology use levels did not show a significant difference between the scores they received for the socioeconomic structure of the family variable. Likewise, Kodan-Çetinkaya (2013) found in their research that there is no difference between students' gender role attitude scores and family income level. However, some studies have produced results contrary to this research. Pınar, Taşkın, and Eroğlu (2008) found in their research that students from low-income families have a more traditional perspective on gender role stereotypes.

Suggestions

According to the data obtained as a result of the research, some suggestions can be made for future research:

- The results obtained by conducting research with students studying at different universities and faculties in different provinces can be compared.

- Different research methods can also be used to examine the relationship between pre-service teachers' perception of gender equality and technology use levels.

- Applications to be made regarding the use of technology in education and gender equality should include both teacher candidates and faculty members, so that a coordinated work will occur among all concerned.

- It can be suggested that the number of elective courses related to the subject in education faculties should be increased and students should choose courses on a voluntary basis.

- Efforts can be made to democratize the institutional structure and social environment of schools and to eliminate sexism.

- The opportunities of teacher candidates to access and use free technologies in university environments can be increased.

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Yayın Etiği Bildirimi / Research Ethics

Etik bir sorun olmadığını beyan ederim. / I declare that there is no unethical problem.

Araştırmacıların Katkı Oranı / Contribution Rate of Researchers

Yazarlar çalışmaya %50-50 oranında aynı oranda katkıda bulunmuştur. / The authors contributed 50-50% to the study at the same rate.

Çıkar Çatışması / Conflict of Interest

Çalışmanın herhangi bir çıkar çatışması yoktur. / The study does not have any conflict of interest.

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