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Okul Öncesi Öğretmen Adaylarının 21.yy Öğrenen Becerileri Kullanımı İle Algılanan Empatik ve Sosyal Öz-yeterlikleri Arasındaki İlişkinin İncelenmesi

Examination of 21st Century Learning Skills and Perceived Empathetic and Social Self Efficacy Skills of Preschool Teacher Candidates

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ABSTRACT

The importance of 21st century skills have been increasing. These skills are effective in adaptation of an individual to society. Self efficacy of an individual could influence gaining of these skills. Perceived social self efficacy of teachers effects teaching attitudes and behaviors. It also has an affect on students' learning motivations. The aim of this research study was to examine the relationship between 21st century skills and the perceived empathic and social self-efficacy of pre-service teachers. The research is conducted in correlational survey method. 179 preschool teacher candidates were participated in the study. The data were obtained through Google Form from the self-efficacy scales. One-way ANOVA, independent t-test analysis and Pearson correlation tests were preferred for the statistical analysis of the data. Although a statistically significant difference was found in the perceived social self-efficacy dimension when examining the status of being an only child or a first child, no statistically significant difference was found according to age, grade, grade point average and parents' educational level. It was not found statistically significant difference in innovativeness skills according to age, class, being first or only child, GPA and education level of parents. Except innovativeness and perceived social self-efficacy skills sub-dimensions, there is positive correlation between all dimensions. The study suggests that practices for developing the social and emotional skills of teacher candidates could be included in undergraduate education curricula.

Keywords: Early childhood education, 21st century skills, self efficacy, cognitive skills.

ÖZ

Günümüzde 21. yüzyıl becerilerinin önemi giderek artmaktadır. Bu beceriler bireyin topluma uyum sağlamasında etkilidir. Bireyin öz yeterliliği bu becerilerin kazanılmasını etkileyebilmektedir. Öğretmenlerin algıladıkları sosyal öz yeterlik, öğretmenlik tutum ve davranışlarını etkilemektedir. Ayrıca öğrencilerin öğrenme motivasyonları üzerinde de etkisi vardır. Bu araştırmanın amacı, 21. yüzyıl becerileri ile öğretmen adaylarının algılanan empatik ve sosyal öz yeterlilikleri arasındaki ilişkiyi incelemektir. Araştırma ilişkisel tarama yöntemiyle gerçekleştirilmiştir. Araştırmaya 179 okul öncesi öğretmen adayı katılmıştır. Veriler, ölçeklerden ve kişisel bilgi formundan Google Forms aracılığıyla elde edilmiştir.

Verilerin istatistiksel analizinde ANOVA, T-testi analizi ve Pearson Korelasyon testleri tercih edildi. Tek çocuk veya ilk çocuk olma durumu incelendiğinde algılanan sosyal öz yeterlik boyutunda istatistiksel olarak anlamlı farklılık bulunmasına rağmen yaş, sınıf, not ortalaması ve ebeveynlerin eğitim düzeyine göre istatistiksel olarak anlamlı bir farklılık bulunamamıştır. Yenilikçilik alt boyutunda yaş, sınıf, ilk ve tek çocuk olma, genel not ortalaması ve anne-baba eğitim düzeyine göre istatistiksel olarak anlamlı bir farklılık bulunamamıştır. Yenilikçilik ve algılanan sosyal öz-yeterlik becerileri alt boyutları dışında tüm boyutlar arasında pozitif korelasyon bulunmaktadır. Araştırma, öğretmen adaylarının sosyal ve duygusal becerilerini geliştirmeye yönelik uygulamaların lisans eğitimi müfredatlarında yer alabileceğini önermektedir.

Anahtar Kelimeler: Erken çocukluk eğitimi, 21. yüzyıl becerileri, öz yeterlik, bilişsel beceriler.

INTRODUCTION

The world is in a rapid change. With the changing time and conditions, what the new age expects from the individual and the society also becomes different (Aydın, 2003). Today, science is advancing rapidly which also brings about rapid and large-scale innovations in technology. These innovations in technology make the world a global village and countries next door neighbors by increasing the diversity of communication tools. The development of technologies and the ever-increasing requirements of integrating technology into teaching have led to a rise in the prevalence of technostress among teachers. Despite the existence of studies on the creators and negative effects of technostress, there is a paucity of insights into the effective factors that alleviate teachers' technostress. The findings indicate that primary and secondary school principals should provide both administrative and collegial professional learning community support to teachers in order to enhance their self-efficacy and thereby reduce technostress (Dong, 2020). An event at one end of the world can reach and even affect another end instantly. In order for the individual to adapt to this rapid change of the 21st century, the age itself has certain expectations from the individual and the society. These expectations are mentioned under the title of “21st century skills” in the literature. But “21st century skills” is a very broad topic and there has been no consensus on exactly how to categorize it. Therefore, it is possible to list many skills in its scope.

Bingley et al. (2012) handled the 21st century skills under four categories which are:
- Thinking skills
- Working skills
- Workings tools
- Living skills (Binkley et al. 2012 cited in Koştur, 2017).

21st century skills include communication, taking responsibility, critical thinking, creative thinking, productivity, problem solving, harmony, cooperation, entrepreneurship, taking personal and social responsibility, information literacy, etc. (EARGED 2011 cited in Gökbayrak & Karışan, 2017; Yadav, Chris, Ninger, Susanne & John, 2014; Yadav, Hong & Stephenson, 2016; Polat, Aslan, & Aydın, 2022). In the 21st century, the ability to be productive and to solve problems is an essential skill for students to navigate the complex world shaped by technology. The integration of Design Thinking into teaching activities has the potential to foster personal skills. As prospective teachers, those undergoing training must comprehend the tenets of design thinking in order to implement it effectively in their future classrooms (Liu, 2024). Surely, these changing conditions of the age are also reflected in education. Many projects have been put into practice in the world and in Turkey in order to integrate 21st century skills into education. Apple Classes of the Future, FATIH: Increasing Opportunities and Improving Technology Movement can be listed as examples for such projects (Orhan Göksün, 2016). However, the extent to which these projects serve their purpose and how much they benefit students is a matter of debate. In a project conducted at Harvard, where the classrooms were redesigned with technology, computer and internet, it was revealed that students did not use these opportunities effectively for 10 years. The main reason for this has been shown as the lack of educators who guide learners in accordance

with their skills (Palfrey & Gasser, 2008 cited in Kurt, Günuç, & Ersoy, 2013). It is crucial to be aware of the 21st-century learning skills in order to design projects and studies in a way that aligns with the needs of the modern learner. This entails guiding educators in this direction to ensure that the projects and training provided continue to function in accordance with their purpose and that investments are not wasted.

A longitudinal research conducted to evaluate the perceptions of teacher candidates about their final century skills and orientations. The study revealed that 21st-century skills are crucial for teacher education. Nevertheless, longitudinal studies focusing on the development of these skills have not been conducted with sufficient frequency. The study also revealed that the development of skill areas varies during teacher education, with notable differences observed between candidates in information and computer technology. It is therefore crucial to examine how pre-service teachers utilise their learning skills and metacognitive and cognitive learning strategies during the initial stages of their education. This entails investigating the nature of the students themselves, the manner in which their skills evolve throughout the teacher education process, and the manner in which they would be supported in developing their learning skills. The research highlights the importance of supporting these candidates as future educators by coordinating their self-regulation skills.. These skills are considered crucial for their personal learning and development skills (Valtonen, Hoang, Sointu, Näykki, Virtanen, Pöysä-Tarhonen, Häkkinen, Järvelä, Mäkitalo & Kukkonen, 2021).

In this context, Trilling and Fadel (2009) analyse these skills over the last century under three main headings. These main headings and their sub-headings are listed below.

1) Learning and Innovation Skills

These skills greatly influence other skills and even form the basis of them. As a matter of fact, just as it is not possible to develop other skills without knowing the ways of learning or loving to learn, it is also not possible to adapt to the rapidly changing and renewed conditions of the 21st century without being open to innovations and following them closely. This topic can be grouped under two subheadings which are:

• Knowledge and skill generation

• Learning to innovate and learn (Trilling and Fadel, 2009).

2) Digital Literacy Skills

Digital literacy means using the media and social media effectively and effortlessly in acquisition of information, being eager and curious about learning, and being able to learn by oneself with technology. These were collected under three sub-titles by Trilling and Fadel (2009), which are:

• Information literacy

• Media literacy

• Information and communication technologies literacy

3) Career and Life Skills

One of the main purposes of the education of the individual is to facilitate his adaptation to the society and to make him an individual who produces in and contributes to the society. What awaits the individual after the education system is working life and therefore, they are expected to be ready for professional life. In this regard, it is important to make their own career plans and to be able to accomplish professional competence. While this skill has 5 sub-dimensions, they

could not be included in the research as it can only be assessed after the individual's working life. These sub-dimensions are:

- Flexibility and adaptability
- Initiative and self-direction
- Social and Intercultural Interaction
- Productivity and responsibility
- Leadership and taking responsibility (Trilling & Fadel, 2009).

Empathic Self-Efficacy and Social Self-Efficacy Skills

Bandura defines self-efficacy as individuals' beliefs about their capacity to influence events that affect their life. A person's belief in self-efficacy has an important role in determining one's behaviors, emotions, feelings and beliefs (Bandura, 1994 cited in Doğan, Beyaztaş, & Koçak, 2012). In other words, self-efficacy is a person's belief in their potential to overcome the problems they will face during their life. (Doğan, Beyaztaş, & Koçak, 2012). Senemoğlu (2005) defines this term as an individual's belief in his-her capacity to cope with different or unusual situations and to overcome a certain condition.

Bandura (1994) posits that there are two distinct types of self-efficacy beliefs: negative and positive. Individuals who have positive self-efficacy perceptions are confident in themselves and their own capacities when faced with difficulties. They push against challenges and increase their efforts even more in difficult situations. Such a perspective motivates the person, increases personal success and reduces the likelihood of an individual experiencing depression. Also, individuals with a high level of belief in self-efficacy are thought to have big goals and to have consistent preferences. (Locke & Latham, 1990). The attitudes of individuals with negative self-efficacy perceptions, on the other hand, are exactly the opposite, as might be expected. These individuals have little confidence in their own capacities, do not want to make an effort when faced with difficult situations, and tend to give up (Bandura, 1994 as cited in Doğan, Beyaztaş, & Koçak, 2012). As can be predicted, these individuals are more likely to be depressed.

Perceived empathic self-efficacy is the level at which a person perceives himself in terms of understanding and giving feedback on the feelings and thoughts of another person (Akın & Başören, 2015). In other words, perceived empathic self-efficacy can be expressed as confidence in one's own competence to respond empathically to the concerns and worries of others and to feel the emotions of others. (Caprara, Alessandri, Di Giunta, Panerai, & Eisenberg, 2010). In short, it is a perception of the individual's ability to empathise. Empathy is one of the skill that should be employed by all individuals in all areas of life for the purpose of fostering healthy communication. (Dökmen, 2003 cited in Akın & Başören, 2015). Through empathy, a person can avoid loneliness.

Social competence indicates the degree to which a person fulfills their responsibilities and social roles. When assessing it, the opinions of others (friends, family, etc.) are taken as a criterion (McFall, 1982). Since these assessment criteria will vary from person to person and from society to society, it is not possible to come up with a clear and objective judgment. However, there is a consistency in terms of competence itself. Assessments may differ according to the person, the situation and time (McFall, 1982). Social skills of the individual can be listed as academic performance, inclusive behaviors, social initiative behaviors, outgoing behaviors, behaviors that positively affect peer friendship, problem solving skills, communication skills (Akfırat, 2006). Social self-efficacy is important to initiate communication with someone's environment and to maintain this communication, to establish good relations with others and to be accepted as a part of society by others (Gresham, Sugai, & Horner, 2001). The perception of social self-efficacy is

related to and affects many behaviors shaped in one's social relations. The presence of a positive perception of social self-efficacy in the individual would be positively affect the individual's initiative, motivation, success and determination at many points. Negative perception of social self-efficacy can result in lack of motivation, giving up easily, disorder in social relations, etc. (Bilgin & Coleman, 2003). For these reasons, how the person perceives themselves in terms of social competence is important.

In recent studies, it has been demonstrated that self-efficacy perception in general has a statistically significant effect on students' motivation (Zimmerman, 2000). In order to facilitate the development of students' empathic and social self-efficacy skills, it is essential for teachers to set up and preserve supportive and caring relationships, as well as to maintain safe, positive and emotionally warm classrooms. This can be achieved by supporting empathy skills, in particular during the early childhood years, when students are undergoing rapid changes in social-emotional skills. Classrooms where the teacher is a leader, well managed, with students with high empathy skills are the most appropriate classroom climates that encourage students to succeed academically and socially (Aslan, 2023). Research has shown that teachers' perceptions of their own self-efficacy have an impact on their ability to express themselves in appropriate ways (Brownell & Pajares, 1999). The positive impact of teachers' self-efficacy beliefs on students has been the subject of many studies and the results have shown that teachers' self-efficacy has an important effect on students' achievement and attitudes. Studies have also shown that teachers' self-efficacy perceptions are effective in developing positive attitudes towards teaching (Tschannen-Moran & Hoy, 2001). It is worth considering that teachers' self-efficacy perceptions will also affect students' social, emotional and academic status (Akbaş & Çelikkaleli, 2006). In other words, they are closely related. The preschool teachers' self-efficacy beliefs scale and the teacher-child communication scale were used to determine the extent to which preschool teachers communicate effectively with their students. The results indicated the strong and harmonious relationship between teacher-child communication skills and self-efficacy beliefs (Ata, 2015). In the studies, the 21st Century Learner Skills Utilisation Questionnaire and the 21st Century Teacher Skills Utilisation Questionnaire were used as data source sets. The results demonstrated that the perspectives of teacher candidates on 21st century learner and teacher skills differed statistically significantly according to gender, subject area, tutoring experience, academic achievement, and teaching practice variables. Furthermore, a consistent, moderate, and statistically significant correlation was observed between 21st-century teacher skills and 21st-century learner skills (Tican & Deniz, 2019). A study of the behaviours of teacher candidates revealed that the dimensions of initiative, effort and perseverance predicted self-efficacy on social initiative traits. This is consistent with the view that confidence is a characteristic of social initiative. Consequently, it is recommended that studies aimed at developing social initiative traits and self-efficacy beliefs be incorporated into teacher education programmes, as these practices can assist teachers in facilitating the transfer of various skills to their students (Konakll, 2015). A review of the literature indicates that there is a robust relationship between self-efficacy and observed teaching performance (Klassen, 2014). This study aimed to evaluate the relationship between life skills and psychological well-being of preschool teacher candidates, and to determine whether some variables and pre-service preschool teachers' life skills significantly predicted their psychological well-being. The results showed that the psychological well-being level of pre-service preschool teachers was relatively high and the most developed life skills were communication and interpersonal relationships (Kasapoğlu, 2019). A study was conducted to determine how pre-service teachers with high and low levels of teacher self-efficacy beliefs were predicted by achievement goal orientation, communication skills, department, and academic achievement scores of final-year pre-service teachers. It was concluded that all the predictor variables included in the model were the main factors influencing an individual's perception of the teaching profession as being below or above average. It was hypothesised that as achievement orientation, communication skills and academic achievement increased, so did the likelihood of an individual's perception of teaching being above average. (Dinçer, 2021).

From these findings, it could be said that the perception of self-efficacy affects the individual in every aspect of their life, including 21st-century learning and teaching skills. The main aim of this research is to figureour the relationship between the utilisation of 21st century learner skills and the perception of empathic and social self-efficacy among preschool teacher candidates. In addition to this main objective, the study also aims to investigate whether the social and empathic self-efficacy and 21st-century learner skills of preschool teacher candidates differ according to participants' grade, GPA, and their parents' educational status.

METHODOLOGY

Research Model

The primary objective of this research is to investigate the relationship between the utilisation of 21st century learner skills and empathic self-efficacy and social self-efficacy by pre-school teacher candidates. In this context, the research employs a correlational screening model. The correlational screening model is a screening model in which the correlation between two or more variables is determined (Karasar, 2002). Once the usage of 21st century learner skills and perceived empathic and social self-efficacy by pre-school teacher candidates had been determined, the study proceeded to examine the relationship between these variables.

Target Population and Sample Group

The research is focused on a specific population of individuals: pre-school teacher candidates. The study group comprises pre-service teachers enrolled in the Department of Pre-school Teaching. The used sampling method was convenience sampling. The data for the study were obtained from 179 preschool teacher candidates attending Marmara University, Yıldız Technical University, Boğaziçi University, Uludağ University and Maltepe University.

Table 1

Demographic Distribution of Preschool Teachers

Variables	Categories	n	%
Age	20 age and below	64	35.8
	21 age and below	115	64.2
Total		179	100
Being an only child or first child	Yes	59	32.9
	No	120	67.1
Total		179	100
	Bogazici University	10	5.6
	Maltepe University	18	10.1
	Marmara University	22	12.3
	Yıldız Technical University	48	26.8
	Uludağ University	81	45.3
Total		179	100
Grade	Grade	9	5.0
	Grade	46	25.7
	Grade	62	34.6
	Grade	62	34.6
Total		179	100
Gano (Ağırlıklı Not Ortalaması)	2 and below	3	1.7
	2.01-2.50	17	9.5
	2.51-3.00	51	28.5
	3.01-4.00	74	41.3
	3.51-4.00	34	19.0
Total		179	100
Mother's education level	Graduated from primary school	131	73.2
	Graduated from high school	34	19.0
	Has bachelor's degree	12	6.7
	Has master's degree	2	1.1
Total		179	100
Father's education level	Graduated from primary school	80	44.7
	Graduated from high school	59	33.0
	Has bachelor's degree	37	20.7
	Has master's degree	3	1.7
Total		179	100

Table 1 shows that 35.8% of the pre-service teachers' ages are 20 years old and below, 64.2% are 21 years old and above, 32.9% were the only child, 67.1% were the first child; 5.6% studied at Boğaziçi University, 10.1% at Maltepe University, 12.3% at Marmara University, 26.8% at Yıldız Technical University, 45.3% at Uludağ University; 5% were 1st grade, 25.7% 2nd grade, 34.6% 3rd and 4th grade; 1.7% of them had a GPA of 2 or less, 9.5% of them 2.01-2.50, 28.5% of them 2.51-3.00, 41.3% of them 3.01-3.50, and 19.0% of them 3.51-4.00. At the same time, 73.2% of the mothers of pre-school teacher candidates held primary school degrees, 19.0% high school degrees, 6.7% bachelor's degrees, and 1.1% postgraduate degrees. It is also seen that 44.7% of the fathers held primary school degrees, 33.0% high school degrees, 20.7% bachelor's degrees, and 1.7% postgraduate degrees.

Data Collection Tools

In the course of the research, the following instruments were employed for the purpose of data collection: the Personal Information Form (PIF), the 21st Century Learner Skills Use Scale and the Perceived Empathic Self-Efficacy and Social Self-Efficacy Scale.

The PIF was employed for the purpose of data collection. The researchers themselves created this form. The form includes questions pertaining to the age of pre-school teacher candidates, whether they are the only or first child, their academic performance, and the educational attainment of their parents.

The 21st Century Learner Skills Use Scale is a tool designed to assess the extent to which individuals demonstrate the skills associated with 21st-century learning. The "21st Century Learner Skills Use Scale" was developed by Derya Orhan Göksün in 2016. A focus group interview was conducted for the 21st Century Learner Skills Use Scale, and item pools were created in accordance with the findings of these interviews and the relevant literature. The comprehensibility of the items was evaluated through a pilot application. The data were collected with the finalised items, and the factor structure of the items was evaluated by exploratory factor analysis (EFA). Following the analysis, the number of items was reduced to 31, and data were collected once more to test the accuracy of the newly created factor structure. The validity and reliability of the developed scale were tested by means of a test-retest application. The internal consistency coefficient of the scale was .892 (Orhan & Kurt, 2015). The 31 item scale is in format of 5-point Likert-type, with responses scored as follows: (1) Never, (2) Rarely, (3) Sometimes, (4) Usually, and (5) Always.The scale comprises four sub-dimensions, namely a 17-item Cognitive Skills Sub-Dimension, a 6-item Autonomous Skills Sub-Dimension, a 6-item Collaborative and Flexibility Skills Sub-Dimension, and a 2-item Innovative Skills Sub-Dimension. The Cognitive Skills Sub-dimension, which is one of the sub-dimensions of the 21st Century Learner Skills Use Scale, elucidates the manner in which information is processed and coded in the mind, and that there is an awareness of the outputs formed in the mind at the end of the process. Autonomous Skills Sub-Dimension covers skills such as self-management and self-control, and explains the skills of independent learning in groups or individually. The demonstration of collaborative and flexibility skills by participants in collaborative activities is indicative of their success in this area and of the flexibility of their learning environments. The term "innovative skills" is used in the context of adapting to new technologies within the scope of this scale. Following the completion of the aforementioned analyses, the 21st Century Learner Skills Use Scale form was finalised. It was made available as a valid and reliable measurement tool for data collection.

The Perceived Empathic Self-Efficacy and Social Self-Efficacy Scale. The scale was translated into Turkish by Akın and Başören (2015). It is developed by Di Giunta et al. (2010), comprises 11 items distributed across two sub-dimensions: perceived empathic self-efficacy (six items) and perceived social self-efficacy (five items). The internal consistency reliability coefficients for the subscales were .78 for the Perceived Empathic subscale and .80 for the Social Self-Efficacy Scale. 5-point Likert format is the scale’s format. It is scored as follows: (1) Completely unsuitable, (2) Unsuitable, (3) Undecided, (4) Suitable, and (5) Completely suitable. The scores obtained from the Empathic Self-Efficacy Sub-Dimension of the scale indicate the ability of the individual to respond empathetically to the needs and feelings of other people. The scores gathered from the Social Self-Efficacy Sub-Dimension of the scale indicate the individual's perceived adequacy in initiating and managing interpersonal relationships. The results of the analysis indicate that the Turkish version of the scale is a valid and reliable measurement tool.

Data Collection

A form was created through the use of Google Forms, which included the following components: a PIF, the 21st Century Learner Skills Use Scale, and the Empathetic Self-Efficacy

and Social Self-Efficacy Scale. Subsequently, the link to the completed form was disseminated to prospective early childhood educators via the Internet. Consequently, the data were obtained through the completion of the forms by pre-school teacher candidates online. The data collection process spanned approximately one month.

Analysis of Data

Firstly, a normality test was made to determine the most appropriate analytical method to be employed in the analysis of the data obtained from the scales. The T-test was used to assess the age of the students and their status as the only or first child, given that the data exhibited a normal distribution. ANOVA test was applied to the variables of grade, grade point average (GPA) and parents' educational level. Pearson correlation test was used to examine the relationships among the tests. Microsoft Office Excel program was used to organize the findings. Analyzes were made with the analysis program.

FINDINGS

This section aimed to determine whether there was a statistically significant difference between the scores of the "21st Century Learner Skills Use Scale" and the "Empathic Self-Efficacy and Social Self-Efficacy Scale" according to a number of variables, including the age of pre-school teacher candidates, whether they were the only child or the first child, the university they attended, their grade, their grade point average, and their parents' education level.

The results of the t-test on the scale scores of pre-school teacher candidates in terms of age groups indicated that there was no statistically significant difference in cognitive skill scores (p=0.874), no statistically significant difference in autonomous skill scores (p=0.170), no statistically significant difference in cooperative and flexibility skill scores (p=0. The results of the t-test indicated that there was no statistically significant difference in innovative skill scores (p=0.290), perceived empathic self-efficacy scores (p=0.325), and perceived social self-efficacy scores (p=0.506).

Table 2

T-Test Results of Pre-school Teacher Candidates' Scale Scores by Being the Only or the First Child or Not

	The Only or the First Child	**n**	$\bar{x}$	**SS**	**t**	**p**
Cognitive Skills	Yes	59	4.11	0.41	1.06	0.291
	No	120	4.04	0.44		
Autonomous Skills	Yes	59	3.37	0.54	0.561	0.576
	No	120	3.33	0.50		
Cooperative and Flexibility Skills	Yes	59	3.26	0.63	1.63	0.105
	No	120	3.09	0.66		
Innovative Skills	Yes	59	3.92	0.81	1.767	0.079
	No	120	3.68	0.92		
Perceived Empathic Self-Efficacy	Yes	59	4.21	0.52	-0.165	0.869
	No	120	4.23	0.50		
Perceived Social Self-Efficacy	Yes	59	4.40	0.48	2.062	0.041*
	No	120	4.22	0.57		

*p<0.05

Table 2 demonstrates that, following comparisons between individuals who were only children, the first children, or not, there was no statistically significant difference in cognitive

skills scores (p=0.291), autonomous skills scores (p=0.576), cooperative and flexibility skills scores (p=0. 105) There was no statistically significant difference in innovative skills scores (p=0.079), no statistically significant difference in terms of perceived empathic self-efficacy scores (p=0.869), but there was a statistically significant difference in terms of perceived social self-efficacy scores (p=0.041). It has been demonstrated that the participants who were the firstborn had higher perceived social self-efficacy scores than the other participants.

Table 3

One-Way Anova Results of Preschool Teacher Candidates' Scale Scores According to Their Grades

	Grade	**n**	$\bar{x}$	**SS**	**t**	**p**
Cognitive Skills	1	9	4.03	0.60	0.096	0.962
	2	46	4.07	0.49		
	3	62	4.04	0.44		
	4	62	4.08	0.35		
Autonomous Skills	1	9	3.41	0.81	1.755	0.158
	2	46	3.21	0.48		
	3	62	3.34	0.50		
	4	62	3.44	0.49		
Cooperative and Flexibility Skills	1	9	3.39	0.74	0.493	0.688
	2	46	3.13	0.66		
	3	62	3.11	0.65		
	4	62	3.16	0.65		
Innovative Skills	1	9	3.89	0.93	0.189	0.904
	2	46	3.75	0.86		
	3	62	3.80	0.98		
	4	62	3.70	0.83		
Perceived Empathic Self-Efficacy	1	9	4.33	0.60	0.803	0.494
	2	46	4.30	0.49		
	3	62	4.16	0.52		
	4	62	4.22	0.50		
Perceived Social Self-Efficacy	1	9	4.40	0.57	0.181	0.909
	2	46	4.25	0.49		
	3	62	4.28	0.53		
	4	62	4.28	0.61		

The results of the one-way ANOVA on the scale scores of pre-school teacher candidates in terms of their grade indicated that there was no statistically significant difference in cognitive skill scores (p=0.962), no statistically significant difference in autonomous skill scores (p=0.158), no statistically significant difference in cooperative and flexibility skill scores (p=0. The results of the one-way ANOVA indicated that there was no statistically significant difference in innovative skill scores (p=0.688), perceived empathic self-efficacy scores (p=0.494), or perceived social self-efficacy scores (p=0.909).

Table 4

One-Way Anova Results of Preschool Teacher Candidates' Scale Scores According to their Weighted Grade Point Average (GPA) Status

	GPA	**n**	$\bar{x}$	**SS**	**t**	**p**
Cognitive Skills	2 ve altı	3	4.48	0.50	1.767	0.138
	2.01-2.50	17	3.94	0.39		
	2.51-3.00	51	4.03	0.44		
	3.01-4.00	74	4.04	0.44		
	3.51-4.00	34	4.17	0.40		
Autonomous Skills	2 ve altı	3	3.72	1.11	1.343	0.256
	2.01-2.50	17	3.18	0.35		
	2.51-3.00	51	3.27	0.58		
	3.01-4.00	74	3.38	0.45		
	3.51-4.00	34	3.42	0.55		
Cooperative and Flexibility Skills	2 ve altı	3	3.50	1.30	0.968	0.427
	2.01-2.50	17	2.92	0.60		
	2.51-3.00	51	3.13	0.62		
	3.01-4.00	74	3.15	0.68		
	3.51-4.00	34	3.26	0.60		
Innovative Skills	2 ve altı	3	4.17	0.76	0.576	0.681
	2.01-2.50	17	3.88	0.93		
	2.51-3.00	51	3.67	0.93		
	3.01-4.00	74	3.72	0.86		
	3.51-4.00	34	3.88	0.91		
Perceived Empathic Self-Efficacy	2 ve altı	3	4.45	0.39	0.944	0.440
	2.01-2.50	17	4.14	0.36		
	2.51-3.00	51	4.17	0.55		
	3.01-4.00	74	4.22	0.53		
	3.51-4.00	34	4.35	0.45		
Perceived Social Self-Efficacy	2 ve altı	3	4.40	0.40	0.339	0.852
	2.01-2.50	17	4.20	0.52		
	2.51-3.00	51	4.35	0.63		
	3.01-4.00	74	4.26	0.52		
	3.51-4.00	34	4.26	0.53		

The results of the one-way ANOVA on the scale scores of pre-school teacher candidates in terms of grade point average (GPA) indicated that there was no statistically significant difference in cognitive skill scores (p=0.138) or autonomous skill scores (p=0. The results of the one-way ANOVA indicated that there was no statistically significant difference in cooperative and flexibility skill scores (p=0.427), innovative skill scores (p=0.681), perceived empathic self-efficacy scores (p=0.440), and perceived social self-efficacy scores (p=0.852).

Table 5

One-Way Anova Results of Preschool Teacher Candidates According to Mother's Educational Status

	Mother's Education Level	**n**	$\bar{x}$	**SS**	**t**	**p**
Cognitive Skills	Graduated from primary school	131	4.03	0.41	0.913	0.403
	Graduated from high school	34	4.14	0.48		
	Has bachelor's Degree and above	14	4.11	0.47		
Autonomous Skills	Graduated from primary school	131	3.34	0.51	0.141	0.869
	Graduated from high school	34	3.32	0.39		
	Has bachelor's Degree and above	14	3.41	0.83		
Cooperative and Flexibility Skills	Graduated from primary school	131	3.11	0.69	0.761	0.469
	Graduated from high school	34	3.27	0.50		
	Has bachelor's Degree and above	14	3.15	0.66		
Innovative Skills	Graduated from primary school	131	3.69	0.86	1.214	0.300
	Graduated from high school	34	3.94	0.87		
	Has bachelor's Degree and above	14	3.89	1.16		
Perceived Empathic Self-Efficacy	Graduated from primary school	131	4.20	0.49	1.304	0.274
	Graduated from high school	34	4.34	0.57		
	Has bachelor's Degree and above	14	4.13	0.49		
Perceived Social Self-Efficacy	Graduated from primary school	131	4.25	0.52	1.700	0.186
	Graduated from high school	34	4.43	0.54		
	Has bachelor's Degree and above	14	4.17	0.80		

The results of the one-way ANOVA on the cognitive, autonomous, cooperative and flexibility skills of pre-school teacher candidates in terms of their education level revealed no statistically significant differences (p=0.403, p=0.869, p=0.300, p=0.186). The results of the one-way ANOVA indicated that there was no statistically significant difference in innovative skill scores (p=0.300), perceived empathic self-efficacy scores (p=0.274), and perceived social self-efficacy scores (p=0.186).

Table 6

One-Way Anova Results of Preschool Teacher Candidates According to Father's Educational Status

	Father's Education Level	n	$\bar{x}$	SS	t	p
Cognitive Skills	Graduated from primary school	80	4.08	0.42	1.056	0.350
	Graduated from high school	59	3.99	0.43		
	Has bachelor's Degree and above	40	4.11	0.44		
Autonomous Skills	Graduated from primary school	80	3.35	0.48	0.216	0.806
	Graduated from high school	59	3.31	0.49		
	Has bachelor's Degree and above	40	3.38	0.61		
Cooperative and Flexibility Skills	Graduated from primary school	80	3.19	0.61	0.700	0.498
	Graduated from high school	59	3.06	0.72		
	Has bachelor's Degree and above	40	3.18	0.64		
Innovative Skills	Graduated from primary school	80	3.76	0.77	0.034	0.966
	Graduated from high school	59	3.77	0.90		
	Has bachelor's Degree and above	40	3.73	1.10		
Perceived Empathic Self-Efficacy	Graduated from primary school	80	4.19	0.44	0.532	0.588
	Graduated from high school	59	4.22	0.59		
	Has bachelor's Degree and above	40	4.29	0.50		
Perceived Social Self-Efficacy	Graduated from primary school	80	4.31	0.53	1.184	0.308
	Graduated from high school	59	4.19	0.52		
	Has bachelor's Degree and above	40	4.35	0.62		

The results of the one-way ANOVA on the cognitive, autonomous, cooperative and flexibility skills of pre-school teacher candidates in relation to their fathers' educational levels revealed no statistically significant differences (p=0.350, p=0.806, p=0.966, p=0.308). The results of the one-way ANOVA indicated that there was no statistically significant difference in innovative skill scores (p=0.966), perceived empathic self-efficacy scores (p=0.588), and perceived social self-efficacy scores (p=0.308).

Table 7

Pearson Correlation Coefficient Results Between Pre-school Teacher Candidates' 21st Century Learner Skills Use Scale Sub-Dimensions and Self-Efficacy Scale Sub-Dimensions Scores

		a	**b**	**c**	**d**	**e**	**f**
a	r	1.000	.399	.543	.464	.514	.498
	p		<0.001*	<0.001*	<0.001*	<0.001*	<0.001*
b	r	.399	1.000	.330	.268	.242	0.002
	p	<0.001*		<0.001*	<0.001*	<0.001*	0.976
c	r	.543	.330	1.000	.394	.298	.475
	p	<0.001*	<0.001*		<0.001*	<0.001*	<0.001*
d	r	.464	.268	.394	1.000	.299	.191
	p	<0.001*	<0.001*	<0.001*		<0.001*	0.011*
e	r	.514	.242	.298	.299	1.000	.480
	p	<0.001*	0.001*	<0.001*	<0.001*		<0.001*
f	r	.498	0.002	.475	.191	.480	1.000
	p	<0.001*	0.976	<0.001*	0.011*	<0.001*	

*p<0,05
a: Cognitive skills
b: Autonomous skills
c: Cooperative and flexibility skills
d: Innovative skills
e: Perceived empathic self-efficacy
f: Perceived social self-efficacy

Table 7 presents the correlation between the dimensions of the "21st Century Learner Skills Use Scale" and the dimensions of the "Perceived Empathic Self-Efficacy and Social Self-Efficacy Scale" of pre-school teacher candidates. The Pearson correlation coefficient test was employed to examine the correlation. The following results were obtained at the conclusion of the investigation.

The investigation revealed a low level of positive correlation ($p<0.001$; $r=0.399$) between cognitive skill scores, which constitute the first sub-dimension of the "21st Century Learner Skills Use Scale", and autonomous skill scores. Additionally, a moderately positive correlation was observed between cognitive skill scores and cooperative and flexibility skills scores ($p<0.001$; r=0. A low level of positive correlation was observed between cognitive skill scores and innovative skills scores ($p < 0.001$; $r = 0.464$). Furthermore, a moderately positive correlation was found between cognitive skill scores and perceived empathic self-efficacy scores ($p < 0.001$; $r = 0.514$), while a low level of positive correlation was noted between cognitive skills scores and perceived social self-efficacy scores ($p < 0.001$; $r = 0.498$).

Furthermore, it has been demonstrated that there is a low level of positive correlation ($p<0.001$; $r=0.330$) between autonomous skills scores, which constitute the second sub-dimension of the "21st Century Learner Skills Use Scale", and cooperative and flexibility skills scores. Additionally, a weak positive correlation has been identified between autonomous skills scores and innovative skills scores ($p<0.001$; $r=0.268$), as well as between autonomous skills scores and perceived empathic self-efficacy scores ($p<0.001$; $r=0.242$).

It has been demonstrated that there is a low level of positive correlation ($p<0.001$; $r=0.394$) between collaborative and flexibility skills, which is the third sub-dimension of the "21st Century Learner Skills Use Scale", and innovative skills. Furthermore, a weak positive correlation has been observed between cooperative and flexibility skills and perceived empathic self-efficacy scores ($p < 0.05$). Additionally, a low level of positive correlation ($p < 0.001$; $r = 0.298$) was observed between cooperative and flexibility skills and perceived empathic self-efficacy scores. Furthermore, a low level of positive correlation ($p < 0.001$; $r = 0.475$) was observed between cooperative and flexibility skills and perceived social self-efficacy scores.

A positive correlation was identified between innovative skills scores and perceived empathic self-efficacy scores ($p < 0.001$; $r = 0.299$), as well as between innovative skills scores and perceived social self-efficacy scores ($p = 0.011$; $r = 0.191$).

Furthermore, a low positive correlation ($p < 0.001$; $r = 0.480$) was identified between perceived empathic self-efficacy and perceived social self-efficacy scores, which are the sub-dimensions of the "Perceived Empathic Self-efficacy and Social Self-efficacy Scale."

DISCUSSION, CONCLUSION AND IMPLICATION

The findings of the research revealed that, with regard to the age variable, there was no statistically significant difference in any of the subdimensions. Özata (2017) examined the self-efficacy perceptions of teachers and their contributions to organisational innovation in terms of various variables. The study revealed that teachers' self-efficacy perceptions did not differ according to age. A review of the literature reveals that these findings align with those of studies examining the age variable and empathic tendencies of teacher candidates (Apaydın Demirci & İkiz, 2017; Yaşar & Erol, 2015; Kiraz 2011; Yılmaz, 2011; Çelik & Çağdaş, 2010; Yılmaz and Akyel, 2008). The study conducted by Ahmetoğlu and Acar (2016) aimed to determine the relationship between the demographic and personality traits of pre-school teacher candidates and their social competence, empathy and communication skills. The results indicated that the social competence and empathy skill scores of the teacher candidates did not differ according to age. Eroğgen (2007) found that the empathic tendency levels of university students did not differ according to age. He interpreted this finding by stating that there was no change in different age groups because the university environment offers similar experiences and students are exposed to similar environmental conditions. However, there are also studies showing that empathic skills differ significantly depending on age (Alver, 2003; Çelik & Çağdaş, 2010; Dev, 2010; Günindi, 2008; Karakuş & Tümkaya, 2015). The study conducted by Şenol and Ergün (2015) revealed that the general self-efficacy beliefs of pre-school teacher candidates and preschool teachers differ according to the age variable. Bingöl (2018) found that the self-efficacy of teacher candidates differed according to age. It is postulated that the discrepancies observed in the literature may be attributed to the scope and sub-dimensions of the measurement tools employed.

Another finding of the research is that there is a statistically significant difference in the perceived social self-efficacy scores of pre-school teacher candidates according to whether they are an only or the first child ($p=0.041$). This indicates that the only or the first child teacher candidates have higher scores of perceived social self-efficacy than the other teacher candidates. Yıldırım Keskin and Özcan (2018) investigated the social behaviours, empathic self-efficacy and social self-efficacy levels of university students according to a number of variables, including age, gender, grade level, parents' education level, parents' employment, family type, place of living and number of close friends. The study found that university students' empathic self-efficacy and social self-efficacy levels did not statistically significantly differ according to the family type or the number of siblings. In a study examining the relationship between pre-school teachers and children aged 48-72 months, Gürgen (2019) found that teachers' social skills were relevant to children's social skills. Furthermore, the study found that children's social skills were

not influenced by the number of siblings. In the study by Uygun and Kozikoğlu (2019) on preschool children, the social competencies of children were examined in terms of various variables. It was observed that anxiety and introverted behaviours increased as the number of siblings of preschool children increased. A review of the literature reveals that the findings on the number of siblings in studies examining social self-efficacy and social skills tend to favour participants with a large number of siblings. The research conducted by Karaman, Tatlı, and Yavuzekinci (2017) examined the effects of communication courses taken by pre-school teacher candidates and university students of the child development department on their empathic tendencies and pro-social behaviours, considering a range of variables. It was observed that as the number of siblings of university students increased, their prosocial behaviours also increased significantly.

Upon examination of another finding derived from the research, it was determined that there was no statistically significant difference in the scores obtained from the sub-dimensions of the scales according to the grade variable of the pre-school teacher candidates. The findings of this study align with those of previous research in this area. In their study examining empathic tendencies and problem-solving skills among teacher candidates, Genç and Kalafat (2010) found that these skills did not differ according to the grade of the candidates. In line with the findings of the research, numerous studies have concluded that the empathic tendencies of teacher candidates do not differ according to the level of their education (Apaydın Demirci & İkiz, 2017; Dereli & Aypay 2012; Durakoğlu & Gökçearslan 2010; Guide 2007; Yaşar & Erol, 2015; Yıldırım, 1992). Nevertheless, it is evident from a review of the literature that there are studies that do not align with the research findings in terms of perceived social self-efficacy scores (Demir, Aydın and Kılıçoğlu 2009; Ekici and Ayberk 2010; Maden and Durukan 2011). In the study conducted by Baykara Pehlivan (2005), an examination of teacher candidates' perceptions of their communication skills revealed an increase in each grade level. In a study by Tutuk, Al, and Doğan (2002), it was found that as the year of education of nursing students increased, their communication skills and empathic tendencies also increased. Upon examination of the research findings, it is postulated that the observed result may be attributed to the similarities in the perceived importance and emphasis of communication and empathy skills within the educational programmes of the teacher candidates included in the sample. It can be postulated that the lack of difference in the empathic tendencies of the teacher candidates according to their level of education may be attributed to the fact that the preschool education undergraduate programme does not differentiate between the grades in terms of empathic tendencies.

Another finding from the study indicated that there was no statistically significant difference in the scores obtained from the sub-dimensions of the scales when the parents' education level of the pre-school teacher candidates was investigated. In their study examining the empathic tendencies and problem-solving skills of pre-school teacher candidates in terms of different variables, Genç and Kalafat (2010) found that the educational status of parents was not a significant factor. In their study, Karaman, Tatlı, and Yavuzekinci (2017) found that the mother's educational level of teacher candidates did not differentiate according to the empathic tendency scale. However, there was a statistically significant difference in the scores of the pro-sociality scale. Additionally, the researchers found that the father's education level variable resulted in an increase in the scale scores, although there was no statistically significant difference. Upon examination of the research findings, it can be postulated that the lack of a statistically significant difference in the scores of the 21st Century Learner Skills Use Scale and Perceived Empathic Self-Efficacy and Social Self-Efficacy Scale of teacher candidates according to their parents' educational level may be attributed to the characteristics of the study group and the similarity of the variables that may influence the educational level of the teacher candidate. Furthermore, given that the target group is of an advanced age, the education level of their mothers and fathers is unlikely to have a significant impact on their 21st-century learner skills, empathic self-efficacy and social self-efficacy.

Furthermore, the findings of the research indicate a positive and statistically significant correlation between the cognitive skill scores, which constitute the first sub-dimension of the "21st Century Learner Skills Use Scale," and the autonomous skill scores, cooperative and flexibility skill scores, and innovative skill scores of pre-school teacher candidates. Additionally, there is a positive correlation between cognitive skill scores and perceived empathic self-efficacy scores and perceived social self-efficacy scores. The findings indicate that the social and empathic self-efficacy of candidates is a significant factor in the use of 21st-century learner skills. The correlation is of a moderate level, which serves to further emphasise the significance of self-efficacy. It has been demonstrated that there is a positive correlation between teacher candidates' autonomous skills scores, which constitute the second sub-dimension of the "21st Century Learner Skills Use Scale", and cooperative and flexibility skills scores, innovative skills scores and perceived empathic self-efficacy scores. A positive correlation has been identified between the cooperative and flexibility skills scores, which constitute the third sub-dimension of the "21st Century Learner Skills Use Scale", and the innovative skills scores, perceived empathic self-efficacy scores and perceived social self-efficacy scores. Additionally, a positive and statistically significant correlation was observed between the preschool teacher candidates' innovative skills scores, which represent the fourth sub-dimension of the "21st Century Learner Skills Use Scale", and their perceived empathic self-efficacy and perceived social self-efficacy scores. A positive correlation has been observed between the perceived empathic self-efficacy and perceived social self-efficacy scores of teacher candidates, which are the sub-dimensions of the "Perceived Empathic Self-Efficacy and Social Self-Efficacy Scale". These findings are consistent with the findings predicted at the outset of the study. A statistically significant correlation was observed between the individual's self-perception and the utilisation of 21st-century learner skills.

Upon examination of the research findings, it was observed that there was no statistically significant correlation between the total scores of teacher candidates from the "21st Century Learner Skills Use Scale" and "Perceived Empathic Self-Efficacy and Social Self-Efficacy Scale." It is noteworthy that although there is a correlation between the sub-dimensions, there is no correlation between the total scores of the scales. Further research could be conducted with alternative sampling groups to ascertain whether the observed result will be replicated or modified.

Consequently, this study examines the correlation between teacher candidates' utilisation of 21st-century learner skills and their perceived empathic self-efficacy and social self-efficacy. The objective is to contribute to the existing literature. The usage of 21st century learner skills, perceived empathic self-efficacy and social self-efficacy by teacher candidates were examined separately, and the study presented the findings regarding whether there is a statistically significant correlation between variables or not. The study proposes that pedagogical practices for the development of social and emotional skills among teacher candidates should be incorporated into undergraduate education curricula. Furthermore, curricula could be revised to foster the development of 21st century skills. Further research could be conducted with other sample groups, as while there was a correlation between the subdimensions of the scale, there was not a correlation between the total scores of the scales.

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GENİŞLETİLMİŞ ÖZET

Giriş

Dünya hızlı bir değişimin içerisindedir. Değişen şartlar ve zaman ile birlikte çağın bireyden ve toplumdan beklentisi farklılaşmaktadır (Aydın, 2003). 21. yüzyıl becerileri arasında girişimcilik, sorumluluk alma, yaratıcı düşünme, eleştirel düşünme, üretkenlik, problem çözme, uyum sağlama, iletişime açıklık, bilgi okuryazarlığı, kişisel ve sosyal sorumluluk, işbirliği, vb. yer almaktadır. (EARGED 2011'den akt. Gökbayrak & Karışan, 2017; Yadav, Chris, Ninger, Susanne & John, 2014; Yadav, Hong & Stephenson, 2016; Polat, Ö., Aslan, N., & Aydın, E. 2022).

Bandura öz-yeterliliği bireyin hayatını etkileyen olaylar üzerinde etki edebilme kapasitelerine dair olan inançları olarak tanımlar. Kişinin öz-yeterliliğine dair olan inancı, kişinin davranışlarını, duygularını, hislerini ve inancını belirlemede önemli role sahiptir (Bandura, 1994'den akt. Doğan, Beyaztaş & Koçak, 2012).Son araştırmalara göre, öz yeterlilik algılarının öğrenci motivasyonu üzerinde istatistiksel olarak anlamlı bir etkisi vardır (Zimmerman, 2000). Öğretmenin rehber olduğu, iyi yönetilen, empati becerileri yüksek öğrencilerin olduğu sınıflar, öğrencileri akademik ve sosyal başarıya teşvik eden en uygun sınıf iklimleridir (Aslan, 2023). Öğretmenlerin öz-yeterlik inançlarının öğrenci başarısı üzerindeki etkisi de araştırılmış ve öğretmenlerin öz-yeterliklerinin hem öğrenci başarısını hem de tutumlarını etkilediği ortaya konmuştur. Dolayısıyla, öğretmenlerin öz yeterlilikleri ile öğrencilerinin genel başarısı arasında güçlü bir ilişki vardır.

Bir bireyin öz-yeterlik algısının, 21. yüzyıl öğrenme ve öğretme becerileri de dahil olmak üzere hayatının çeşitli yönlerini etkilediği sonucuna varılabilir. Bu çalışma, okul öncesi öğretmen adaylarının 21. yüzyıl öğrenme becerilerini kullanmaları ile empatik ve sosyal öz yeterlik algıları arasındaki ilişkiyi incelemek amacı ile gerçekleştirilmiştir.

Araştırmada okul öncesi öğretmen adaylarının ölçeğin alt boyutlarından aldıkları puanların yaş değişkenine göre anlamlı bir farklılık gösterip göstermediği, okul öncesi öğretmen adaylarının algıladıkları sosyal öz-yeterlik puanlarının tek çocuk ya da ilk çocuk olma durumuna göre farklılaşıp farklılaşmadığı, tek çocuk ya da ilk çocuk olan öğretmen adaylarının sosyal öz-yeterlik puanlarının diğer öğretmen adaylarına göre daha yüksek olup olmadığı incelenmiştir, Okul öncesi öğretmen adaylarının öğrenim gördükleri sınıf değişkenine göre ölçeklerin alt boyutlarından elde edilen puanların farklılaşıp farklılaşmadığı ve okul öncesi öğretmen adaylarının anne/baba eğitim durumu değişkenine göre ölçeklerin alt boyutlarından elde edilen puanların farklılaşıp farklılaşmadığı incelenmiştir. Ayrıca okul öncesi öğretmen adaylarının bilişsel beceri puanları ile özerk beceri puanları, işbirliği ve esneklik beceri puanları, yenilikçilik beceri puanları, algılanan empatik öz yeterlik ve algılanan sosyal öz yeterlik puanları arasında bir ilişki olup olmadığı incelenmiştir.

Yöntem

Bu çalışma, okul öncesi öğretmen adaylarının 21. yüzyıl öğrenme becerilerini kullanmaları ile empatik ve sosyal öz yeterlikleri arasındaki ilişkiyi incelemek amacı ile gerçekleştirilmiştir. Bu bağlamda, araştırmada ilişkisel tarama modeli kullanılmıştır. Bu model, değişkenler arasındaki ilişkilerin belirlenmeye çalışıldığı bir tarama modelidir (Karasar, 2002). Çalışmada ile okul öncesi öğretmen adaylarının 21. yüzyıl öğrenme becerilerini kullanma durumları ile algıladıkları empatik ve sosyal öz yeterlik arasındaki ilişki incelenmiştir. Bunun için öncelikle öğretmenlerin bu becerileri kullanma durumları ve öz yeterlikleri belirlenmiş, ardından iki değişken arasındaki ilişki incelenmiştir. Bununla birlikte çalışma kapsamında toplanan veriler ile farklı değişkenler açısından da karşılaştırmalar yapılmıştır.

Evren ve Çalışma Grubu

Bu çalışmanın çalışma grubunu 2019-2020 eğitim-öğretim yılı güz döneminde uygun örnekleme yöntemine göre ulaşılan Okul Öncesi Eğitimi Anabilim Dalı'nda öğrenim gören öğretmen adayları oluşturmaktadır. Araştırmada, Marmara Üniversitesi, Yıldız Teknik Üniversitesi, Boğaziçi Üniversitesi, Uludağ Üniversitesi ve Maltepe Üniversitesi'ne devam eden 179 öğretmen adayı oluşturmuştur. Bu katılımcılardan veriler elde edilmiştir.

Sonuç ve Tartışma

Araştırma kapsamında öncelikle okul öncesi eğitimi öğretmen adaylarının ölçeğin alt boyutlarından edindikleri puanların katılımcıların yaşlarına göre istatistiksel olarak anlamlı bir farklılık oluşturmadığı tespit edilmiştir. Alanyazın incelendiğinde, bu bulguların yaş değişkeni ile öğretmen adaylarının empatik eğilimlerini inceleyen çalışmaların sonuçları ile tutarlı olduğu görülmektedir (Apaydın Demirci & İkiz, 2017; Çelik & Çağdaş, 2010; Durakoğlu & Gökçearslan, 2010; Kiraz 2011; Yaşar ve Erol, 2015; Yılmaz, 2011; Yılmaz ve Akyel, 2008). Ancak literatürde empatik becerilerin yaşa bağlı olarak anlamlı bir şekilde farklılaştığını gösteren çalışmalar da bulunmaktadır (Karakuş ve Tümkaya, 2015; Çelik & Çağdaş, 2010; Dev, 2010; Günindi, 2008; Alver, 2003). Araştırmanın bir diğer bulgusu ise okul öncesi öğretmen adaylarının algılanan sosyal öz yeterlik puanlarının tek çocuk ya da ilk çocuk olma durumuna göre istatistiksel olarak anlamlı bir farklılık gösterdiği, tek çocuk ya da ilk çocuk olan öğretmen adaylarının algılanan sosyal öz yeterlik puanlarının diğer öğretmen adaylarına göre daha yüksek olduğudur. Araştırma kapsamında elde edilen diğer bir bulgu, öğretmen adaylarının öğrenim gördükleri sınıf değişkenine göre ölçeklerin alt boyutlarından elde edilen puanlarda anlamlı bir farklılık olmadığını göstermektedir. Araştırmadan elde edilen bir diğer bulgu, okul öncesi öğretmen

adaylarının anne ve babalarının eğitim durumu değişkenine göre ölçeklerin alt boyutlarından elde edilen puanlarda anlamlı bir farklılık olmadığını göstermiştir.

Çalışmanın sonuçları, bilişsel beceri puanları ile özerk beceri puanları, işbirliği ve esneklik becerileri puanları ve yenilikçilik becerileri puanları arasında anlamlı pozitif korelasyon olduğunu göstermiştir. Ayrıca, bilişsel beceri puanları ile algılanan empatik öz yeterlilik puanları ve algılanan sosyal öz yeterlilik puanları arasında pozitif bir korelasyon bulunmuştur. Sonuçlar, 21. Yüzyıl Öğrenen Becerileri Kullanım Ölçeği'nin ikinci alt boyutu olan özerk beceriler puanları ile işbirliği ve esneklik becerileri ve yenilikçilik becerileri puanları arasında pozitif bir korelasyon olduğunu göstermiştir. Ayrıca, otonom beceri puanları ile algılanan empatik öz yeterlilik puanları arasında pozitif bir korelasyon bulunmuştur. 21'inci Yüzyıl Öğrenen Becerileri Kullanım Ölçeği'nin üçüncü alt boyutu olan işbirliği ve esneklik becerileri ile yenilikçilik becerileri puanları arasında pozitif bir korelasyon olduğu ortaya konmuştur. Ayrıca, işbirliği ve esneklik becerileri ile algılanan empatik öz yeterlik puanları ve algılanan sosyal öz yeterlik puanları arasında pozitif bir korelasyon olduğu görülmüştür. Araştırmada, okul öncesi öğretmen adaylarının Algılanan Empatik Öz-yeterlik ve Sosyal Öz-yeterlik Ölçeği'nin alt boyutları olan algılanan empatik öz-yeterlik ve algılanan sosyal öz-yeterlik puanları arasında pozitif bir korelasyon bulunmuştur. Bu bulgular, çalışmanın başında formüle edilen başlangıç hipotezleri ile uyumludur. Benlik algısı ile 21. yüzyıl öğrenme becerilerinin kullanımı arasında anlamlı bir ilişki bulunmuştur.

Araştırma bulguları incelendiğinde, çalışmaya katılan öğretmen adaylarının '21. Yüzyıl Öğrenme Becerileri Kullanım Ölçeği' puanları ile 'Algılanan Empatik Öz Yeterlik ve Sosyal Öz Yeterlik Ölçeği' puanları arasında istatistiksel olarak anlamlı bir ilişki olmadığı tespit edilmiştir. Alt boyutlar arasında bir ilişki olmasına rağmen, ölçeklerin toplam puanları arasında bir ilişki olmaması şaşırtıcıdır.Araştırmanın bulguları doğrultusunda öğretmen adaylarının lisans eğitimleri boyunca sosyal duygusal becerilerinin gelişimine katkı sağlayan uygulamalara ve müfredatlara yer verilmesi, 21. yy becerilerinin gelişimine yönelik öğretim programlarının geliştirilmesi önerilerine yer verilmiştir.