Examination of 21st-Century Skills in Early Childhood in Terms of Different Variables*

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Abstract. It has been argued recently that in order for people to become global citizens, they must be taught 21st-century abilities. It is thought to be crucial that kids learn these abilities in their early years, when growth and learning are occurring at the fastest rates. This is why the study intends to investigate how youngsters between the ages of 5 and 6 differ in terms of their 21st-century competencies. The sample for the study included 45 preschool teachers, and the research was done using a relational survey model. Through the teachers, information on the 21st century skills of 483 students was gathered. A demographic information form and the 21st Century Skills Scale for 5–6–Year-Old Children were used to gather the data (DAY-2). T-test and ANOVA were used to assess the data that were acquired. As a result, it was discovered that the sampled children's 21st-century talents did not differ significantly based on the number of siblings or the parents' employment status. The gender variable was analyzed, and it was shown that there was a considerable difference in favor of girls. It was shown that the children's 21st-century skills rose along with the parents' education and income levels.

Keywords: 21st-century skills, preschool education, early childhood.

1. INTRODUCTION

Every country wants to produce a certain kind of person through its educational policy. Planning the traits of this human type should take into account the demands and desires from both domestic and foreign viewpoints. Within these plans, policies relating to education are also updated. In order to raise 21st-century citizens who can meet those demands and carve out a space for themselves, it is imperative to acquire a variety of talents in addition to academic ones. According to Castelss (2010), the 21st century is a time of transformation, and in order to succeed in life, work, and to be a good citizen, people must be able to think critically, solve problems, produce and use information, be open to working cooperatively, and have great communication skills. In literature, these abilities are referred to as 21st-century capabilities. To be a global citizen and be able to keep up with the times, one needs 21st-century abilities. Problem-solving and critical thinking abilities, cooperation, communication, creativity, digital literacy, and social and emotional growth are all components of 21st-century talents. In many nations, there are numerous studies and theoretical frameworks on 21st-century skills. National Assessment of Educational Progress (NAEP), Assessment and Teaching of 21st Century Skills (ATCS21), Partnership for 21st Century Skills (P21), North Central Regional Educational Laboratory's (enGauge), Organization for Economic Co-operation and Development (OECD), American Association of Colleges and Universities (AACU), International Society for Technology in Education (ISTE), Iowa, and Wagner's are a few of these frameworks (Cansoy, 2018; Elci, 2021; Gungor, 2021; Voogt & Roblin, 2010). This study's measurement tool was for P21 skills, hence the P21 framework will be emphasized a lot.

In cooperation with governments and businesses, the Partnership for 21st Century Skills was developed as a framework for the development of the knowledge, expertise, and attitudes required to thrive in business and the 21st century. Three main competencies make up this framework: (1) learning and innovation skills (creativity, innovation, critical thinking, and problem-solving); (2) life and career skills (flexibility, adaptability, initiative, self-management, social and intercultural skills, productivity, and traceability); and (3) information, media, and technology skills (information literacy, media literacy, information, and communication literacy). For professionals to comprehend and adjust to a changing society, they must possess all of these skills (González-Pérez & Ramrez-Montoya, 2022; Partnership for 21st Century Learning, 2007; Ramrez-Montoya et al., 2021).

Early childhood and 21st-century skills

Early childhood is the best time to build the groundwork for people to pick up these talents because children are naturally curious and ready to learn. The best time to get kids ready for future requirements and problems is in their early years. Children should start developing the critical thinking, imaginative problem-solving, data analysis, and teamwork skills that they will rely on heavily as global citizens as early as possible. The most crucial challenge for parents, educators, and decision-makers is to design learning

opportunities that will foster children's excitement and curiosity while equipping them with the knowledge and abilities they need for the twenty-first century (P21-A Network of Battelle for Kids, 2019; Tugluk & Altin, 2018; Tugluk & Ozkan, 2019).

Initiatives to determine how the objectives, learning-teaching processes, and evaluation approaches should be included in the education programs of schools to acquire these skills, starting from the early childhood period, which is the most important and critical period in the individual's life in terms of development, have gained great importance (Care et al., 2018; Cetin & Cetin, 2021; Ramey, 2016). According to the Ministry of Education's (2013) Preschool Education Program, "In this program, a synthesis was reached by making use of child-centered practices in different learning theories and models to raise the individual needed by the 21st century and to meet national characteristics and needs." 21st-century skills are mentioned in the program. The inclusion of 21st-century skills in educational programs is widespread, not only in Turkey but also in Australia, Belgium, China, Finland, Hong Kong, Ireland, Italy, Norway, Singapore, Japan, New Zealand, Norway, Singapore, and New Zealand.

In early childhood programs, the priority is to provide skills and behaviors rather than transfer knowledge. For this purpose, a rich stimulus learning experience is created for children with many different techniques and activities. During and as a result of these experiences, children acquire skills such as problem-solving, critical thinking, producing and structuring knowledge, creativity, empathy, and cooperation, in other words, 21st-century skills. In addition, there is a need for different methods than traditional methods for the evaluation of 21st-century skills acquired by children. In early childhood, measurement and evaluation are carried out with many different informal methods such as observation, portfolio, development reports, and sociometry, and a process-oriented perspective is adopted instead of a result-oriented perspective. Therefore, the acquisition of 21st-century skills in early childhood is ideal in terms of the appropriateness of both the learning and assessment process (Cetin & Cetin, 2021; Helm & Katz, 2001; Ministry of Education, 2013; Tunceli & Zembat, 2017).

In this context, there is a need to examine the skill levels of children to gain 21st-century skills in the early childhood period in a desired way and determine their strengths/weaknesses and shape the education and training processes accordingly. It is thought that an important step will be taken in reaching the desired human model by determining which variables affect the 21st-century skills of preschool children and eliminating the deficiencies by considering the results.

When the studies on 21st-century skills in early childhood are examined, it is seen that the studies prepared to measure these skills of children are quite limited. Dinler, Simsar, and Yalcin (2021) examined the 21st-century skills of children aged 3-6 years in terms of some variables and found that the variables of parental education and employment status, and family income level made a significant difference in these skills. Elci (2021) examined the relationship between 21st-century skills and competition styles of preschool children and found that these two variables significantly predicted each other.

Gungor (2021) found that there was no significant relationship between self-regulation skills and 21st-century skills of 5- and 6-year-old children attending preschool education institutions. In addition to these studies, there are a limited number of studies that examine the preschool education program in terms of 21st-century skills. In these studies, it is emphasized that the preschool education program is suitable for the acquisition of 21st-century skills and offers a rich learning environment due to its flexible structure. They found that the preschool education program and activity book largely support learning and innovation skills and life and career skills (Costin & Pontual, 2020; Cetin & Cetin, 2021; Kocin & Tugluk, 2020; Tugluk & Ozkan, 2019). In studies examining preschool teachers' views on 21st-century skills, it was found that teachers attach importance to using different methods and techniques (GUnay Manavoglu, 2022); critical thinking tendencies are related to their use of 21st-century skills (Alkoc, 2020); reflective thinking predicts application skills (Egmir & Cengelci, 2020). Since the studies on 21st-century skills for the preschool period are limited, it is thought that any research on the subject will contribute to the literature. Based on this idea, the study aims to examine the 21st-century skills of children aged 5-6 years according to various variables. In line with this purpose, answers to the following questions were sought:

1. 1. Do the 21st-century skills of 5-6-year-old children differ according to gender variable?
2. 2. Do the 21st-century skills of 5-6-year-old children differ according to the number of siblings variable?
3. 3. Do the 21st-century skills of 5-6-year-old children differ according to the variable of mother and father's education?
4. Do the 21st-century skills of 5-6-year-old children differ according to the variable of mother and father's employment status?
5. Do the 21st-century skills of 5-6-year-old children differ according to the family income level variable?

2. METHOD

Research model

The research was conducted with the relational survey model. The relational survey model, one of the general survey model types, is expressed as a research model that aims to determine the presence and/or degree of change between two or more variables (Karasar, 2021).

Population sample

Children in Turkey who are between the ages of 5 and 6 and are enrolled in preschool make up the study's population. The study used convenient sampling, one of the non-random sampling techniques. Non-random sampling is a sampling technique designed to

start with the easiest to reach individuals and continue until the researcher reaches the group's size (Buyukozturk et al., 2022). In this case, information was gathered from 483 kids through 45 preschool teachers, and 419 kids were included in the study by removing information that was incomplete or inaccurate. Digital data were gathered from a variety of regions of Turkey. Table 1 contains demographic information about the sample group.

Table 1

Demographic information about the sample group.

Variable	Group		N	%
Gender	Girl		245	58.5
	Boy		174	41.5
Number of Siblings	No sibling		75	17.9
	1		170	40.6
	2		89	21.2
	3		27	6.4
	≥ 4		58	13.8
Education	Anne	Primary School	106	25.3
		Secondary School	108	25.8
		High School	98	23.4
		University	107	25.5
	Baba	Primary School	61	14.6
		Secondary School	92	22
		High School	125	29.8
		University	141	33.7
Employment Status	Mother	Unemployed	295	70.4
		Laborer	35	8.4
		Officer	27	6.4
		Shopkeeper	19	4.5
		Other	43	10.3

	Unemployed	3	.7
	Laborer	191	45.6
Father	Officer	64	14.3
	Shopkeeper	139	33.2
	Other	22	5.2
	≤ 4000 TL	56	13.4
	4001-6000 TL	192	45.8
Family Income	6001-8000 TL	51	12.2
	8001-10000 TL	77	18.4
	≥ 10001 TL	43	10.3
Total	Sample	419	100

Data collection tool

The Demographic Information Form prepared by the researchers and the 21st Century Skills Scale for 5-6-Year-Old Children (DAY-2) were used as data collection tools in the study. The demographic information form included questions about gender, number of siblings, parents' education and employment status, and income levels.

21st Century Skills Scale for 5-6 Year-Old Children (DAY-2)

The scale was developed by Yalcin et al. (2020) and consists of a total of 33 items and 3 sub-dimensions. The scale has a four-point Likert scale; 4=Always, 1=Never. The internal consistency (Cronbach Alpha) values of the scale were calculated as .96 for the Learning and Innovation Skills sub-dimension, .94 for Life and Career Skills, and .92 for Information, Media, and Technology Skills. The internal consistency (Cronbach Alpha) value of the unidimensional version of the scale was calculated as .97. Since these values are higher than .80, it shows that the scale is highly reliable.

Data collection and analysis

At the meeting on February 9, 2022, with meeting number 4, the ethics committee of the university where the researchers worked approved of the ethical permission before the data collection process could begin. After receiving approval from the ethics committee, an online meeting was organized with the sample of 50 preschool instructors, who were employed in various parts of Turkey. The scale was introduced, the goal of the study was discussed, the instructors were instructed on how to complete the scale form, and the scale form was sent digitally during the meeting with the teachers. 45 teachers completed the forms digitally, recorded them, and gave them to the researchers, compared to five teachers who were unable to gather data due to their busy schedules.

The gathered information was carefully examined and recorded. 419 data were included in the study out of the total 483 gathered, with the incomplete or poorly filled-out data being eliminated. The SPSS 26 program was used to examine the data. After the data were checked for normality and confirmed to be so, frequency, t-test, and ANOVA tests were run and the results were examined. Ethical approval was obtained from Sakarya University Rectorate Educational Research and Publication Ethics Committee with decision number 04/03 and dated 09.02.2022.

3. FINDINGS

Table 2 presents the results of the t-Test for the 21st-century skills of 5-6-year-old children according to gender variable.

Table 2

t-Test Results of 21st Century Skills Scale Scores according to Gender Variable

	Gender	N	X	SD	t-Test		
					t	Sd	p
Learning and Innovation Skills	Girl	245	44.90	8,78	4.32	417	.000*
	Boy	174	40.93	9,90			
Life and Career Skills	Girl	245	40.16	7,03	3.47	417	.001*
	Boy	174	37.62	7,83			
Information, Media, and Technology Skills	Girl	245	14.76	3,08	1.62	417	.105
	Boy	174	14.24	3,37			
Total	Girl	245	99.82	16,98	3.96	417	.001*
Score	Boy	174	92.80	19,19			

p<.05

When Table 2 is examined, it is seen that there is a significant difference in the 21st-century skills scale scores of the children according to the Learning and Innovation Skills sub-dimension *(t[419]=4,32; p<,05)*, Life and Career Skills sub-dimension *(t[419]=3,47; p<,05)* and total scale score *(t[419]=3,96; p<,05)* according to gender. In this context; it is seen that girls have higher learning and innovation skills [Girl (X: 44,90), boy (X: 40,93)], life and career skills [Girl (X: 40,16), boy (X: 37,62)], and 21st-century skills [Girl (X: 99,82), boy (X: 92,80)] according to the scale total score than boys. There was no significant gender difference in the Information, Media and Technology Skills sub-

dimension of the scale (t[419]=1.62; p<.05). Table 3 presents the data expressing the relationship between children's 21st-century skills scores and the number of siblings.

Table 3

ANOVA Results of 21st Century Skills Scale Scores According to Number of Siblings Variable

	Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Learning and Innovation Skills	Intergroup	175,025	4	43,756	,487	,746
	Intragroup	37220,159	414	89,904		
	Total	37395,184	418			
Life and Career Skills	Intergroup	392,154	4	98,039	1,768	,134
	Intragroup	22962,796	414	55,466		
	Total	23354,950	418			
Information, Media and Technology Skills	Intergroup	67,601	4	16,900	1,646	,162
	Intragroup	4250,146	414	10,266		
	Total	4317,747	418			
Total Score	Intergroup	1542,306	4	385,576	1,160	,328
	Intragroup	137561,427	414	332,274		
	Total	139103,733	418			

When the data in Table 3 are examined, no significant difference was found between the 21st-century skills scale scores according to the Learning and Innovation Skills sub-dimension (F=,487, p=<.05), Life and Career Skills sub-dimension (F= 1,768, p=<.05), Information, Media and Technology Skills sub-dimension (F= 1,646, p=<.05) and the total scale score (F= 1,160, p=<.05). Table 4 presents the data expressing the relationship between children's 21st-century skills scores and parental education level (mother).

Table 4

ANOVA Results of 21st Century Skills Scale Scores According to Parental (Mother) Education Level Variable

	Source of Variance	Sum of Squares	sd	Mean of Squares	F	p	Significant difference
Learning and Innovation Skills	Intergroup	972,622	3	324,207	3,694	,012	3-1, 4-1
	Intragroup	36422,562	415	87,765			
	Total	37395,184	418				
Life and Career Skills	Intergroup	674,572	3	224,857	4,114	,007	3-1
	Intragroup	22680,378	415	54,652			
	Total	23354,950	418				
Information, Media and Technology Skills	Intergroup	73,037	3	24,346	2,380	,069	
	Intragroup	4244,710	415	10,228			
	Total	4317,747	418				
Total Score	Intergroup	4033,384	3	1344,461	4,131	,007	2-1, 3-1, 4-1
	Intragroup	135070,349	415	325,471			
	Total	139103,733	418				

When the ANOVA results in Table 4 are examined, no significant difference was found between mothers' education levels and children's 21st-century skills according to the Information, Media and Technology Skills sub-dimension of the 21st-century skills scale (F= 2,380, p=<.05). According to Learning and Innovation Skills sub-dimension (F= 3,694, p=<.05), Life and Career Skills sub-dimension (F= 4,114, p=<.05) and scale total score (F= 4,131, p=<.05), there was a significant difference between mothers' education levels and children's 21st-century skills. To determine the direction of the difference, Tukey Test was performed first, and LSD Test was performed to determine the direction of the data with a significance level close to p<.05 in more detail. In this context, a significant difference was found between high school graduates (X: 44,18) and primary school graduates (X: 40,82) in favor of high school graduates, between university graduates (X: 44,44) and primary school graduates (X: 40,82) in favor of university graduates in the Learning and Innovation Skills sub-dimension; between high school graduates (X: 40,97) and primary school graduates (X: 37,36) in favor of high school graduates in the Life and Career Skills sub-dimension.

In the total score of the scale, there was a significant difference in favor of university graduates (X: 98,91), high school graduates (X: 100,59), and secondary school graduates (X: 96,91) compared to primary school graduates (X: 92,06). In Table 5, the data expressing the relationship between children's 21st Century Skills Scores and parental education level (father) are presented.

Table 5

ANOVA Results of 21st Century Skills Scale Scores According to Parental (Father) Education Level Variable

	Source of Variance	Sum of Squares	sd	Mean of Squares	F	p	Significant difference
Learning and Innovation Skills	Intergroup	926,395	3	308,798	3,514	,015	3-1, 4-1
	Intragroup	36468,789	415	87,877			
	Total	37395,184	418				
Life and Career Skills	Intergroup	516,925	3	172,308	3,131	,026	4-1, 4-2
	Intragroup	22838,025	415	55,031			
	Total	23354,950	418				
Information, Media and Technology Skills	Intergroup	43,438	3	14,479	1,406	,241	
	Intragroup	4274,309	415	10,300			
	Total	4317,747	418				
Total Score	Intergroup	3313,408	3	1104,469	3,375	,018	4-1, 4-2
	Intragroup	135790,325	415	327,206			
	Total	139103,733	418				

When Table 5 is examined, it is seen that there is a significant difference in the Learning and Innovation Skills sub-dimension (F= 3,514, p=<.05), Life and Career Skills sub-dimension (F= 3,131, p=<.05) and total score of the scale (F= 3,375, p=<.05). According to the Tukey Tests conducted to determine the direction of the difference; in the Learning and Innovation Skills sub-dimension of the scale, the difference between high school graduates (X: 43,68) and primary school graduates (X: 40,19) in favor of high school graduates, between university graduates (X: 44,67) and primary school graduates (X: 40,19) in favor of university graduates; in the Life and Career Skills sub-dimension, university graduates (X: 40,51) between primary school graduates (X: 37,63) and secondary school graduates (X: 38,04) in favor of university graduates; and according to

the scale total score, a significant difference was found between university graduates (X: 100, 03) and primary school graduates (X: 91,68) and secondary school graduates (X: 95,21) in favor of university graduates. Table 6 presents the data expressing the relationship between children's 21st Century Skills Scores and parental employment status (mother).

Table 6

ANOVA Results of 21st Century Skills Scale Scores According to Parental (Mother) Employment Status Variable

	Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Learning and Innovation Skills	Gruplararası	241,284	4	60,321	,672	,612
	Gruplariçi	37153,900	414	89,744		
	Total	37395,184	418			
Life and Career Skills	Intergroup	162,740	4	40,685	,726	,574
	Intragroup	23192,209	414	56,020		
	Total	23354,950	418			
Information, Media and Technology Skills	Intergroup	13,578	4	3,394	,326	,860
	Intragroup	4304,169	414	10,397		
	Total	4317,747	418			
Total Score	Intergroup	799,298	4	199,824	,598	,664
	Intragroup	138304,435	414	334,069		
	Total	139103,733	418			

According to the data in Table 6, there was no significant difference between the 21st Century skills of the children and their mothers' employment status according to the Learning and Innovation Skills sub-dimension (F=,672, p=<.05), Life and Career Skills sub-dimension (F=,726, p=<.05), Information, Media and Technology Skills sub-dimension (F=,326, p=<.05) and Total Scores (F=,598, p=<.05). In Table 7, the data expressing the relationship between children's 21st Century Skills Scores and parental employment status (father) are presented.

Table 7.

ANOVA Results of 21st Century Skills Scores According to Parental (Father) Employment Status Variable

	Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Learning and Innovation Skills	Intergroup	271,849	4	67,962	,758	,553
	Intragroup	37123,335	414	89,670		
	Total	37395,184	418			
Life and Career Skills	Intergroup	224,178	4	56,045	1,003	,406
	Intragroup	23130,772	414	55,871		
	Total	23354,950	418			
Information, Media and Technology Skills	Intergroup	43,231	4	10,808	1,047	,383
	Intragroup	4274,516	414	10,325		
	Total	4317,747	418			
Total Score	Intergroup	873,563	4	218,391	,654	,624
	Intragroup	138230,169	414	333,889		
	Total	139103,733	418			

When the data in Table 7 are examined, no significant difference was found between the 21st Century skills of the children and their fathers' employment status according to the Learning and Innovation Skills sub-dimension (F=,758, p=<.05), Life and Career Skills sub-dimension (F= 1,003, p=<.05), Information, Media and Technology Skills sub-dimension (F= 1,047, p=<.05) and Total Scores (F=,654, p=<.05). In Table 8, the data expressing the relationship between children's 21st Century Skills Scores and family income level are presented.

Table 8.

ANOVA Results of 21st Century Skills Scores According to the Variable of Family Income Level

	Source of Variance	Sum of Squares	Sd	Mean of Squares	F	p	Significant difference
Learning and Innovation Skills	Intergroup	1029,530	4	257,383	2,930	,021	2-1, 5-1
	Intragroup	36365,654	414	87,840			
	Total	37395,184	418				
Life and Career Skills	Intergroup	537,171	4	134,293	2,437	,047	2-1, 3-1, 4-1, 5,1
	Intragroup	22817,778	414	55,115			
	Total	23354,950	418				
Information, Media and Technology Skills	Intergroup	59,875	4	14,969	1,455	,215	
	Intragroup	4257,872	414	10,285			
	Total	4317,747	418				
Total Score	Intergroup	3851,286	4	962,821	2,947	,020	2-1, 3-1, 4-1, 5-1
	Intragroup	135252,447	414	326,697			
	Total	139103,733	418				

When the data in Table 8 are examined, a significant difference was found between the 21st-century skills of the children and the sub-dimensions of the scale; Learning and Innovation Skills (F= 2,930, p=<.05), Life and Career Skills (F= 2,437, p=<.05) and total score of the scale (F= 2,947, p=<.05). According to the Tukey test conducted to determine the direction of the difference; in the Learning and Innovation Skills sub-dimension, a significant difference was found between the income level between 4001-6000 TL (X: 43,65) and the income level between 4000 TL and below (X: 39,92) in favor of those with an income level between 4001-6000 TL; between the income level of 10001 TL and above (X: 46,20) and the income level of 4000 TL and below (X: 39,92) in favor of those with an income level of 10001 TL and above.

In the Life and Career Skills sub-dimension, a Significant difference was found between the income level of 4001-6000 TL (X: 39,17) and the income level of 4000 TL and below (X: 36,60) in favor of those with an income level between 4001-6000 TL; between the income level of 6001-8000 TL (X: 39,70) and the income level of 4000 TL and below (X: 36,60) in favor of those with an income level between 6001-8000 TL; between the income level of 8001-10000 TL (X: 39,28) between those with an income level of 4000

TL and below (X: 36,60) in favor of those with an income level of 8001-10000 TL; between those with an income level of 10001 TL and above (X: 41,06) and those with an income level of 4000 TL and below (X: 36,60) in favor of those with an income level of 10001 TL and above.

According to the total score of the scale, there was a significant difference between the income level between 4001-6000 TL (X: 97,55) and 4000 TL and below (X: 90,26) in favor of those with an income level between 4001-6000 TL; between the income level between 6001-8000 TL (X: 97,25) and 4000 TL and below (X: 90,26) in favor of those with an income level between 6001-8000 TL; between the income level between 8001-10000 TL (X: 96,84) between those with an income level of 4000 TL and below (X: 90,26) and those with an income level of 8001-10000 TL in favor of those with an income level of 8001-10000 TL; Significant difference was found between those with an income level of 10001 TL and above (X: 102,39) and those with an income level of 4000 TL and below (X: 90,26) in favor of those with an income level of 10001 TL and above. In the Information, Media and Technology Skills sub-dimension of the scale, no significant difference was found between children's 21st-century skills and the income level of the family (F= 1,455, p=<.05).

4. RESULTS, DISCUSSIONS, AND SUGGESTIONS

The purpose of the study was to look at many characteristics in relation to the 21st century skills of children between the ages of 5 and 6. The information gathered for this purpose revealed that there was a considerable disparity in 21st-century skills depending on the children's gender, parental education, and family income levels. The number of siblings and parents' employement statues were shown to have no appreciable effect.

According to the study, girls' "Learning and Innovation Skills," "Life and Career Skills," and total scores were higher than they were when they were younger. A review of the literature revealed that studies with various age groups did not show any statistically significant gender differences (Dinler, Simsar, & Yalçn, 2021; Elci, 2021; Gurultu, Aslan, & Alci, 2020; Perdana et al., 2021; Uyar & Cicek, 2021). In their study of the seventh-grade students' 21st-century talents, Rogayan et al. (2021) discovered that female students had greater scores than male students. In a similar vein, Gulen (2013) and Karakas (2015) reported that girls had higher levels of 21st-century skills than boys in their studies with middle school pupils. Since gender is not the only factor that determines 21st-century skills, it can be argued that varied results have been found in the research.

The results of the study revealed that the learning and innovation skills, life and career skills, and total scores of the parents' education levels of the children were different, favoring those with higher education levels. This outcome is consistent with those of Dinler et al. and Elci (2021). (2021). According to Ozturk and Sanl (2007), moms with

poor levels of education have a tendency to raise their kids in an authoritarian and overprotective manner, which makes it challenging for the kids to learn life skills. Children's growth is significantly influenced by their inherited traits, parenting philosophy, and parental support for their schooling (Ardila et al., 2005; Berk, 2007; Santrock, 2013; Tunceli & Zembat, 2018; Yavuz, 2016). Parental education level is crucial for children's growth in many areas, including 21st-century abilities, as indicated in the literature.

In the study, it was observed that children's family income levels differed in "Learning and Innovation Skills", "Life and Career Skills" and total scores in favor of those with higher income. It has also been revealed in studies that the income level of the family is related to all developmental areas of children (Aslanargun et al., 2016; Comlekciogulları, 2020; Dinler et al., 2021; Elci, 2021; Ozdemir- Ozden et al., 2018; Taner & Basal, 2005; Tunceli & Zembat, 2018; Yavuz, 2016). The family in which the child lives and the socioeconomic structure of the house in which the child grows up have a direct impact on many issues from nutrition to education. Since children growing up in families with middle and upper-income levels are more likely to have a rich stimulating environment at home, access better educational opportunities, and benefit more intensively from parental support, it can be said that children will have more opportunities to acquire many skills and behaviors, especially 21st-century skills. Gobena (2018) stated that equal opportunity can only be provided if governments minimize income inequality as much as possible by regulating economic policies, supporting socioeconomically disadvantaged families in this respect, and including children in preschool education.

As a result, it was discovered that 5 to 6 year old preschool students' 21st century competencies varied depending on demographic factors. It is impossible to think about the child in a way that is independent of his or her environment, just like in Bronfenbrenner's ecological theory. When combined with the strength of the child's inherited traits and temperament, the ecological environment—a complex network of interconnected systems with the child at its center—directly influences "who" and "how" the child will be as an individual. The ability to generate and affect change rather than merely consume is a quality that people who are raised with 21st-century skills develop. They also know how to use technology effectively. Because of these abilities, people will thrive in life and be able to survive any crisis that arises.

Research on 21st-century abilities with preschoolers is quite scarce, as indicated in this report. It can be said that researchers who are interested in this topic will contribute significantly to the literature by concentrating on the issues of expanding the number of measurement tools for early childhood children's 21st-century skills, carrying out in-depth evaluations by combining different methods, and developing programs to acquire these skills.

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