## Çocuk Gelişimi Öğrencilerinin Bilişsel Esneklik Becerileri ile Öğretme Motivasyonları Arasındaki İlişkinin İncelenmesi

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#### Öz



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Araştırmanın amacı çocuk gelişimi öğrencilerinin bilişsel esneklik becerileri ile öğretme motivasyonları arasındaki ilişkiyi incelemektir. Nicel araştırma deseni kullanılan araştırmada örneklem, eğitime devam eden 257 cocuk gelisimi öğrencisinden oluşmaktadır. Araştırmada, çocuk gelişimi öğrencilerine yönelik bilgileri içeren Kişisel Bilgi Formu, bilişsel esneklik düzeylerini belirlemek üzere Bilişsel Esneklik Envanteri ve öğretme motivasyon düzeylerini belirlemek üzere Öğretme Motivasyonu Ölçeği kullanılmıştır. Araştırma sonucunda, çocuk gelişimi öğrencilerinin bilişsel esneklik becerileri ile öğrenme motivasyonları arasındaki pozitif yönde anlamlı bir ilişki olduğu bulunmuştur. Ayrıca, çocuk gelişimi öğrencilerinin yaşı ile bilişsel esneklik becerilerinin alt boyutu olan alternatif ve kontrol boyutları arasında, aynı zamanda öğrencilerin cinsiyetleri ile bilişsel esnekliğin kontrol alt boyutu arasında anlamlı bir fark saptanmıştır. Çocuk gelişimi öğrencilerinin bilişsel esneklikleri ve bilişsel kontrol düzeyleri ile kardeş sırası, anne ve babaların çalışma durumlarına göre anlamlı bir farklılık olduğu da elde edilen sonuçlar arasındadır.

Anahtar kelimeler: Çocuk gelişimi, biliş, bilişsel esneklik, öğretme motivasyonu, üniversitesi öğrencisi.

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# Examination of the Relationship Between Cognitive Flexibility Skills and Teaching Motivations of Child Development Students

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#### Abstract



The aim of this study is to examine the relationship between child development students' cognitive flexibility skills and their teaching motivation. A quantitative research design was used in the study. The sample consists of 257 students who study in child development department. In the research, Personal Information Form containing information about child development students, Cognitive Flexibility Inventory (CFI) to determine cognitive flexibility levels, and Motivation to Teach Scale (TMS) to determine instructional motivation levels were used. As a result of the research, it is seen that there is a positive and significant relationship between the cognitive flexibility skills of child development students and their learning motivation. Furthermore, there was a strong relationship between the age of the child development students and the alternative and control dimensions, which are sub-dimensions of cognitive flexibility skills, as well as the gender of the students and the control subdimension of cognitive flexibility. There is also a substantial difference based on the cognitive flexibility and cognitive control levels of child development students, sibling rank, and working status of mothers and fathers, according to the findings.

*Keywords*: Child development, cognition, cognitive flexibility, teaching motivation, university student.

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#### Introduction

The number of newly constructed Faculties of Health Sciences in Turkey is growing by the day, bringing together a large number of undergraduate students and professionals under one roof. Faculties of Health Sciences aim to provide multidimensional support during the intervention phase by combining the transdisciplinary approaches of almost all fields of health sciences (Tercan & Bıçakçı, 2017). Child development, on the other hand, is a department that studies under health sciences faculties in general, though it is included in some universities' vocational schools of health. Moreover, the field of child development is built on a newly formed history and encompasses a wide range of disciplines. These disciplines are composed of three areas of psychology, which are psychoanalytic, clinical, and experimental. In addition, it is making progress by making use of important disciplines such as social work, public health, sociology, anthropology, biology, neurology, education and medicine. (Berk, 2013; Gander & Gardiner, 2015). When the duties of the professionals graduated from the child development program are examined, it is seen that important health services such as evaluating the child and performing developmental diagnosis in the process, establishing, implementing and monitoring early intervention, support or education stages according to the needs of the child and family, and child-centered family counseling are carried out (Çocuk Gelişimi Ulusal Çekirdek Eğitim Programı, 2016). In addition to these services, child development professionals continue their work as child development and education teachers with the assistance of health personnel or pedagogical formation in places such as the ministry of family and social services, special education, healthy life, lifelong learning centers and pre-school institutions. When the centers and institutions where child development professionals work are examined, in 11th title, where job definitions are made in the regulation of the Ministry of Family and Social Policies, it is seen that the child development professionals undertake tasks such as taking part in developmental screening and support services, directing the necessary institutions and organizations in risky situations, creating studies for children with disabilities or in need of protection, organizing reports and planning and implementing psychosocial education processes into operation (Aile ve Sosyal Politikalar Bakanlığı, 2013; 2015). As stated in 41st title, lifelong learning centers affiliated with the Ministry of Health undertake tasks in the development and support phase of children within the community health unit (Toplum Sağlığı Merkezi ve Bağlı Birimler Yönetmeliği, 2018). According to 1st title of the regulation on special education institutions, pre-school education services are provided by pre-school

educators, special education teachers, and child development teachers. In addition, in 59th title, child development and education teachers are among the professional staff working in private education institutions (Özel Eğitim Hizmetleri Yönetmeliği Resmi Gazete, 2020). The 45th title of the regulation on pre-school institutions states that graduates of child development and care departments, with a lower limit of one in each pre-school institution, can work within the framework of success to contribute to the skills of children who are inadequate in terms of self-care skills in pre-school institutions (Milli Eğitim Bakanlığı, 2019). In addition, it is known that child development professionals take place in many private institutions as well as state institutions. As it can be understood from here, child development professionals can organize educational activities according to their location. Therefore, they need some knowledge and skills when organizing educational activities. With all these tasks explained, it can be seen that child development professionals have a wide range of work and they continue their profession as an educator besides their health professional identities. Given that the students of the child development program may encounter different individuals and situations in the wide job opportunities that are tried to be mentioned, investigating whether child development students possess important concepts such as cognitive flexibility will shed light on the content of the education to be provided. Furthermore, it is believed that investigating whether the cognitive flexibility skills of students of the child development program affect their motivation to teach can make significant contributions to increasing the competencies of child development professionals and child development students working in both health and education fields.

Cognitive flexibility skill, develops in parallel with the individual as he grows and develops, and is the ability of a person who begins to realize how to deal with the stimuli as the stimuli keep increasing in the environment and gains the ability to make the necessary arrangements in himself (Crone, Ridderinkhof, Worm, Somsen, & Molen, 2004). Martin and Anderson (1998), defined cognitive flexibility as; a) the person's awareness that there are stylish and accessible options that can fit into every situation they are in, b) the person's satisfaction with the potential to adapt and stretch to every situation, and c) the person's ability to feel competent.

When the relevant literature is reviewed, it is seen that cognitive flexibility is a concept that varies from person to person and many definitions exist. According to Colzato et al., cognitive flexibility can be called ability or skill, while it can be called advanced regulation power according to Masley et al. (2009). Cognitive flexibility is an important system in the healthy cognitive processes of individuals. Investigating

other factors that affect the continuity of this system will facilitate a better explanation of the term cognitive flexibility (Doğan Laçin & Yalçın, 2019). At the stage of providing information to students while supporting their cognitive flexibility skills, transferring knowledge in changeable learning environments and presenting it to students using many learning methods is very useful for the development of these skills of students (Spiro et al., 1992). It is also a skill that teachers must possess and pass on to their students (Kılıç & Demir, 2012).

It is thought that one of the characteristics that allow the educator to use his cognitive flexibility skills to their full potential is his motivation to teach. Teaching motivation is described as the educator's motivation as a result of an internal or external environment that allows them to achieve a breakthrough in the direction they aim and take action (Ercan, 2000). The environment is in charge of extrinsic motivation, whereas the individual is in charge of intrinsic motivation (Gün & Turabik, 2019). While the external motivation of the teacher increases with the related students, positive relations at school, supportive management with the relevant parents, the internal motivation increases with the conscience, love of teaching and the thought of being useful (Ada et al., 2013). An educator who is intrinsically motivated does his job voluntarily, adopts it, and puts up sufficient effort. (Argon & Cicioğlu, 2017). In addition, motivation has three main qualities; it activates the behavior, ensures its continuity, and guides it in a positive way (Kaplan, 2007). While it is expected that all of the characteristics described above be present in the educator, it should also be noted that the educator's motivation has a substantial impact on the motivation of the students (Jesus & Lens, 2005). It is possible to say the opposite. It is possible to claim that a motivated student not only provides the educator with significant job satisfaction, but also boosts the positive atmosphere in the classroom (Yüksel, 2004).

As a result of the literature review, it is possible to find many studies in which the relationship between some characteristics that are thought to be related to the cognitive flexibility level of the person giving the training is examined. In the study conducted by Üzümcü and Müezzin (2018), it was determined that there is a positive and significant relationship between the cognitive flexibility level of teachers and the level of professional satisfaction. In another study conducted by Buğa et al (2018) with teacher students, it was found that the attitudes of individuals with high cognitive flexibility scores towards their problem-solving styles were positive compared to students with medium and low scores. It has been revealed that there is a positive and significant relationship between pre-service teachers' perceptions of problem solving and their cognitive flexibility levels (Erdoğan,2018; Hanife, 2018). As the

studies above show, encouraging cognitive flexibility benefits professional development in a variety of ways. It is hoped that it will benefit the field by assisting professionals' professional development and raising awareness, particularly by investigating the relationship between the cognitive flexibility level of child development professionals working in the fields of health and education and their motivation to teach. Furthermore, when studies with child development professionals and child development students are evaluated, it is found that the studies are mostly focused on the health professional identities of these people (Altıparmak & Tural Hesapçıoğlu, 2013; Taştepe & Köksal Akyol, 2014; Tercan & Bıçakçı-Yıldız, 2017) and the studies in the field of education are very limited (Kaçmaz et al., 2020; Yağcı, et al, 2021) . It is thought that the study carried out is of important value for the enrichment of the field in many ways because the child development profession is more related to the field of education. In line with this information, answers to the following questions were sought.

- Is there a significant relationship between cognitive flexibility skills and learning motivations of child development students?
- Is there a significant relationship between the age of child development students and their cognitive flexibility skills and their two sub-dimensions, the alternative and control dimensions?
- Is there a significant difference between cognitive flexibility skills of child development students/candidates by gender, family income status, number of siblings?
- Is there a significant difference between learning motivations of child development students/candidates by gender, family income status, number of siblings?

#### Methodology

#### Research Model

In this research, the cognitive flexibility skills and learning motivations of child development students will be explained using the quantitative research design. The relational survey model was used to examine the relationship between the two cases in the study. The presence or degree of change is calculated using the relational survey model to explain the relationship between two or more variables (Karasar, 2007). In this case, the relationships between child development students' cognitive flexibility skills, and intrinsic motivation and extrinsic motivation dimensions of learning motivations were examined with alternative and control dimensions.

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#### **Working Group**

The study's population consisted of students studying in the child development departments of universities in Turkey. The research used the "snowball sampling method", which is one of the purposeful sampling methods. According to this method, individuals who meet the sampling criteria targeted in line with the aim of the study and other individuals to be reached through these individuals constitute the sample of the study (Karasar, 2007). Accordingly, child development students were reached through students and academicians studying in the child development department. The number of students studying child development in Turkey is defined as 7000. In light of this population, a sample calculation at the 5% significance level was performed, and 257 students were reached as a result of the study, which aimed to reach child development students. Table 1 contains information on the study group.

Table 1: Demographic characteristics of child development students participating in the study

Demographic Variables		n	%
	Female	243	94.6
Candan	Male	14	5.4
Gender	Total	257	100.0
	Eighteen	11	4.3
	Nineteen	31	12.1
	Twenty	46	17.9
	Twenty-one	48	18.6
A 7.0	Twenty-two	59	23.0
Age	Twenty-three	35	13.6
	Twenty-four	13	5.1
	Twenty-five	11	4.3
	Twenty-six	3	1.2
	Total	257	100.0
	Below min. wage	30	11.7
	Minimum wage	7	2.7
	2826-3999 TL	70	27.2
Family Income Status	4000-6999 TL	86	33.5
	7000-9999 TL	41	16.0
	10.000 TL and above	23	8.9
	Total	257	100.0
	No siblings	13	5.1
	One	76	29.6
Number of siblings	Two	70	27.2
Number of sibilings	Three	54	21.0
	Four and above	44	17.1
	Total	257	100.0
	No siblings	15	5.8
	One	78	30.4
	Two	102	39.7
Ranking among siblings	Three	40	15.6
Mariking arriong sibilings	Four and above	22	8.5
	Total	257	100.0
	Not working	<b>257</b> 172	<b>100.0</b> 66.9
	Not working Working	172 60	66.9 23.4
Mother's Profession	Not working	172 60 25	66.9
Mother's Profession	Not working Working	172 60	66.9 23.4
Mother's Profession	Not working Working Retired Total Not working	172 60 25	66.9 23.4 9.7
Mother's Profession	Not working Working Retired Total Not working Working	172 60 25 <b>25</b>	66.9 23.4 9.7 <b>100.0</b>
Mother's Profession  Father's Profession	Not working Working Retired Total Not working	172 60 25 <b>257</b>	66.9 23.4 9.7 <b>100.0</b> 1.6

As shown in Table 1, the research participants consisted of 243 (94.6%) female and 14 (5.4%) male child development students. In terms of age distribution, maximum

22 (23.0%) and minimum 26 years old participants were included in the study. When the family income status was examined, it was seen in the study that 86 (33.5%) of the child development students had families with an income of 4000-6999 at most and 7 (2.7%) had families with a minimum wage income at least. When the number of siblings they have is examined, it is seen that the majority of the child development students participating in the study, namely 76 (29.6%), have only one sibling. When their ranking among siblings is examined, it is seen that 102 (39.7%) of the participants are the second child in the family. When the professions of the mothers were examined, it was seen that the vast majority of mothers of the child development students who participated in the study, namely 172 (66.9%), did not work. Finally, when the professions of the fathers are examined, it is possible to say that the majority of fathers of students who involved in this study, namely 186 (72.3%), worked.

#### **Data Collection Tool**

#### Personal Information Form

The researchers designed a *Personal Information Form* that includes questions about the child development students' age, gender, number of siblings, siblings' ranking, parental professions, and family income status.

#### Cognitive Flexibility Inventory (CFI)

Sapmaz and Doğan (2013) conducted a Turkish validity and reliability evaluation of the scale created by Dennis and Wall (2010). The scale is designed to assess university students' cognitive flexibility. The *Alternatives sub-dimension* of the scale, which consists of 20 items and 2 sub-dimensions, consists of 13 items, while the *Control sub-dimension* consists of 7 items. It is a 5-point Likert-type scale of (1=Absolutely inappropriate, 2=Inappropriate, 3=Slightly appropriate, 4=Appropriate, 5=Absolutely Appropriate). The scale has twenty-four positive items and six negative items scored in reverse (2, 4, 7, 9, 11, and 17). An increase in the scale scores indicates an increase in the level of cognitive flexibility. The Cronbach Alpha reliability number was calculated using exploratory and confirmatory factor analysis. Cronbach's Alpha reliability coefficients are .90 on all scale items, .90 on the *Alternatives sub-dimension* as .84 on the *Control sub-dimension*. Looking at the test-retest coefficients, all scale items were calculated as .75, the *Alternatives sub-dimension* as .78, and the *Control sub-dimension* as .73.

#### Motivation to Teach Scale (MTS)

The scale was developed by Kauffman, Yılmaz Soylu and Duke (2011). Candan and Gencel (2015) conducted a Turkish validity and reliability study. The scale aims to measure the teaching motivation of teacher students studying at university. The motivation to teach scale consists of 12 items and two sub-dimensions. The first subdimension, Intrinsic Motivation, consists of 7 items, while the Extrinsic Motivation sub-dimension consists of 5 items. The scale is a 6-point Likert type scale, (Strongly Agree 6, Agree 5, Slightly Agree 4, Slightly Disagree 3, Disagree 2, Strongly Disagree 1). The scale's items are all positive; in other words, there is no negative item. The increase in the total scores of the scale indicates an increase in the level of teaching motivations. The Cronbach Alpha reliability number of the Turkish form of the scale and the total of the sub-dimensions of the scale were calculated by using exploratory and confirmatory factor analysis. All scale items of Cronbach's Alpha reliability coefficients were calculated as .90, intrinsic motivation sub-dimension as .79, and extrinsic motivation sub-dimension as.92. In accordance with the data obtained in this study, Cronbach Alpha coefficients were calculated to determine the reliability of both scales. Table 2 displays the data.

Table 2: Reliability analysis results of the total scores of CFI, MTS and their sub-dimensions

Scale and sub-dimensions	Cronbach's Alpha	Number of items
CFI	.830	20
CFI ControL	.823	7
CFI Alternative	.896	13
MTS	.854	12
MTS Intrinsic	.805	7
MTS Extrinsic	.666	5

As shown in Table 2, the reliability results of the total scores of the CFI, MTS, and the sub-dimensions of the scales, and the Cronbach's Alpha coefficient of the *CFI sub-dimension* was found to be .830, the Cronbach's Alpha coefficient of the *"CFI Control sub-dimension"* was found to be .823, and the Cronbach's Alpha coefficient of the *CFI Alternative sub-dimension* was found to be .896 and it was apparent that the scale is highly reliable. It is seen that while the Cronbach's Alpha coefficient of the MTS was found to be .854, the Cronbach's Alpha coefficient of the *MTS-Intrinsic sub-dimension* was found to be .805, and that it was highly reliable, the Cronbach's Alpha coefficient of the *MTS Extrinsic sub-dimension* was found to be .666, and it was moderately reliable.

#### **Data Collection and Analysis**

The analysis of data obtained digitally from students in Turkish universities' child development departments was carried out with SPSS 21 program. Accordingly, as a result of the normality tests on the data taken from the participants, it was decided to apply the paramedic tests because the data was distributed normally. The t-test, which allows to analyze differences between binary variables, and the One-Way Anova test, which allows us to analyze differences between three or more variables, were used among the paramedic tests and furthermore, relationship analyzes were used to analyze the relationship between the scales. Kolmogorov Smirnov analysis and kurtosis skewness values were examined to see whether the scores obtained from the Cognitive Flexibility Skills (CFI) and Motivation to Teach Scales (TMS) of child development students were normally distributed. Table 3 shows the data from the analysis results.

Table 3. The results of normality analysis of the CFI, TMS, and sub-dimensions

Descriptive Statistics					Normal Distribution Analysis					
Variable	n	Min	Max	Ž.	sd	Skew.V alue	Kurtos. Value	Kolmogoro v-Smirnov	df	р
Age	257	18	26	21.00	1.77	.252	312	.117	257	.000
CFI	257	43	100	78.00	9.96	364	.607	.095	257	.001
CFI Control	257	26	35	26.00	4.91	439	095	.080	257	.001
CFI Alternati	257	25	65	53.00	6.89	670	.152	.093	257	.000
TMS	257	16	72	45.00	10.65	332	.047	.066	257	.023
TMS Intrinsic	257	8	42	27.00	6.85	508	.099	.068	257	.000
TMS Extrinsic	257	6	30	18.00	4.64	.016	174	.065	257	.239

As shown in Table 3, as determined by the findings of Kolmogorov-Smirnov analysis made with the data obtained from the child development teacher students' age, the sub-dimensions of CFI, and the sub-dimensions of TMS, it is seen that while the *TMS Extrinsic sub-dimension* shows a normal distribution (p=0.200>0.05), child development students' age, *CFI sub-dimensions*, total score of TMS and *TMS Intrinsic sub-dimension* do not show a normal distribution. (p=0.000<0.05) The fields in the social sciences do not need to be distributed in a similar way to the natural sciences. According to Hair et al (2010), values between -1 and +1 are considered sufficient to show a normal distribution. Based on this view, it will be possible to say that child

development students' ages, *CFI sub-dimensions*, total score of TMS, and *TMS Intrinsic sub-dimension* are normally distributed. The LSD Test, which is one of the Pearson Correlation Analysis, t-test, ANOVA and "Post-Hoc" methods used in normally distributed data, was preferred in the study.

#### **Findings**

The statistical results of the data gathered from the scales used for the research questions are examined in this section, and the findings are presented.

Table 4: Results of Pearson Correlation Analysis of the relationship between CFI and TMS and its sub-dimensions (n:257)

Variables	1	2	3	4	5	6
CFI(1)	1	.893**	.775**	.335**	.330**	.281**
CFI Alternative(2)		1	.407**	.369**	.366**	.306**
CFI Control (3)			1	.161**	.156**	.139**
TMS(4)				1	.951**	.890**
TMS Intrinsic(5)					1	.706**
TMS Extrinsic(6)						1

significant at the \*\*p<.01, \*p<.05 level, r=0.000-0.300 low relationship, r=0.301-0.700 moderate relationship, r=0.701-1.00 strong relationship

Table 4 shows that there is a positive and moderate link between the overall score of CFI and the total score of TMS (r = 0.335, p>0.01) and it was found that there was a moderate positive relationship between the CFI total score and the *TMS Intrinsic sub-dimension* (r = 0.330, p>0.01), and a positive moderate relationship between the CFI total score and the *TMS Extrinsic sub-dimension* (r = 0.281, p>0.01).

Table 5: Pearson correlation analysis results of the relationship between the age of child development students and the CFI, TMS and sub-dimensions (n:257)

Variables	CFI	CFI ALTERNATIVE	CFI CONTROL	TMS	TMS INTRINSIC	TMS EXTRINSIC
Age of child developmen t students	.211**	.159**	.204**	.060	.065	.041

Significant at the \*\*p<.01, \*p<.05 level, r=0.000-0.300 low relationship, r=0.301- 0.700 moderate relationship, r=0.701-1.00 strong relationship

As shown in Table 5, it was found that there was a positive low-moderate relationship between the age of child development students and the CFI total score (r = 0.211, p>0.01). In addition, there was a positive low-moderate relationship between the ages of child development students and the CFI Alternative sub-dimension (r = 0.211, p>0.01) and the CFI Control sub-dimension (r = 0.159 p>0.01). There is a low level of relationship between the age of child development students and TMS and its sub-dimensions.

Table 6: T-test results of the mean scores of CFI, TMS, and sub-dimensions of child development students to gender (n:257)

Variables	Groups	N	Х	sd	t-test		
variables	Groups	IN .	^	Su	df	t	р
CFI	Female Male	243 14	78.40 74.14	9.867 11.230	255	.272	.602
CFI Alternative	Female Male	243 14	52.85 48.00	6.675 9.123	255	2.350	.127
CFI Control	Female Male	243 14	25.55 26.14	5.012 2.905	255	5.485	.020*
TMS	Female Male	243 14	45.05 48.64	10.764 8.044	255	2.168	.142
TMS Intrinsic	Female Male	243 14	27.31 28.57	6.934 5.402	255	1.262	.262
TMS Extrinsic	Female Male	243 14	17.73 20.07	4.684 3.149	255	3.453	.064

<sup>\*</sup>p<,05

As shown in Table 6, it was observed that there was no difference between the CFI, *CFI Alternative sub-dimensions*, and TMD and its sub-dimensions according to the gender of the child development students (p>0.05). However, it was found that there was a significant difference in the *CFI Control sub-dimension* according to the gender of the child development students (t=5.485; p<0.05). The "CFI Control" levels of male child development students are found to be more positive than the female child development students.

Table 7: ANOVA test results for TMS and CFI and sub-dimensions according to the demographic characteristics of the study group (n:257)

Variabl Scales	le /		n	x	sd	F	р	Difference
Mothers Profession	CFI	1 Not work 2 Working 3 Retired Total	172 60 25 257	76.77 80.53 82.16 78.17	10.186 8.405 10.122 9.968	5.569	.004*	2-1 3-1
Mothers F	CFI Control	1 Not work 2 Working 3 Retired Total	172 60 25 257	24.68 27.08 28.16 25.58	4.954 4.396 4.170 4.919	9.698	.000*	2-1 3-1
a) V	CFI Control	1 Not work 2 Working 3 Retired Total	4 186 67 257	30.25 25.17 26.43 25.58	4.645 4.970 4.593 4.919	3.499	.032*	1-2
no =	TMS Extrinsic	No siblings 1 2 3 4 and above Total	15 78 102 40 22 257	17.73 17.33 17.38 19.82 18.50 17.86	3.614 4.730 4.270 4.856 5.501 4.640	2.478	.045*	3-1 3-2

<sup>\*</sup>p<,05

As shown in Table 7, the difference (F=5.569; p<0.05) between the CFI total scores according to the mother's profession variable was determined to be significant. According to the LSD analysis to understand which groups the difference was in, it was concluded that there was a significant difference between participants whose mothers work and participants whose mothers do not work, while there was also a significant difference between participants whose mothers retired and participants whose mothers do not work. Moreover, it was determined that there was a significant difference between the *Control sub-dimension*, which is one of the sub-dimensions of the CFI, according to the mother's profession variable (F=9.698; p<0.05). According to the LSD test, there was a significant difference between participants whose mother works and participants whose mothers does not work and participants whose mothers does not work.

According to the father's profession variable, as can be observed that there is a significant difference (F=3.499; p<0.05) with the *Control sub-dimension*, which is one of the sub-dimensions of CFI. According to the LSD test results, it was revealed that

there was a significant difference between the participants whose fathers do not work and the participants whose fathers work. According to the ranking among siblings variable, there was a significant difference between the scores of the *TMS Extrinsic sub-dimension* of TMS (F=2.478; p<0.05). According to the LSD test results, it is seen that there is a significant difference between the participants who are in the third place among siblings and those who are first and second among siblings.

#### Discussion

In this study, the relationship between cognitive flexibility skills and teaching motivations of students studying child development was examined. For this study, data was collected and evaluated from 257 child development students. The findings presented as a result of the analyses were used to construct a discussion.

The relationship analysis conducted to investigate the relationship between students' of child development cognitive flexibility abilities and their learning motivations found a moderately positive relationship between cognitive flexibility skills and learning motivation. In other words, as child development students' cognitive flexibility skills improve, so does their motivation to learn. A study conducted by Zahal (2014) demonstrated a relationship between the cognitive flexibility levels of individuals taking the special talent exam and their learning styles in exam success. It has been revealed that learning styles are related to exam success and that these individuals have a high level of cognitive flexibility. In another study, Sevim (2015) examined the relationships between inclusive classroom teachers' understanding of learning and teaching and their perceptions of cognitive flexibility and self-efficacy. As a consequence of the study, it was discovered that classroom teachers' cognitive flexibility and self-efficacy beliefs had a favorable association. The conclusions of the research project in question support the conclusion that the cognitive flexibility skills of child development students and their learning motivations are related.

In the study, it was revealed that there is a low-to-moderate positive relationship between the age of child development students and cognitive flexibility skills and alternative and control sub-dimensions. In other words, as the age of child development students increases, so does their cognitive flexibility skills. According to Gürbüz and Nartgün's (2018) research, a significant difference was found between cognitive flexibility and age, and it was found that the cognitive flexibility scores of teacher students between the ages of 31-35 were higher than those of teacher students between the ages of 20-25 and 26-30. Blume and Zembar (2007) stated that

starting from adolescence, children pass into the concrete operational stage and are able to produce logical solutions to abstract problems. Furthermore, Cepeda (2001) indicated that cognitive flexibility develops from adolescence and reaches its peak between the ages of 21 and 30. The study's findings appear to support these opinions and provide a substantial contribution to the field.

When the cognitive flexibility skills of the child development students in the study group were examined in terms of the difference between men and women, no significant difference was identified between the cognitive flexibility, alternative subdimension, and TMS sub-dimensions. According to the findings of a study conducted by Doğan Laçin and Yalçın (2019), the cognitive flexibility levels of university students did not differ significantly between men and women. In the study, however, a significant difference was found between men and women in the control subdimension of cognitive flexibility. According to the finding, the control level of cognitive flexibility skills of men is higher than that of women. Contrary to what is known, this finding shows that men control themselves more than women when making cognitive decisions. Among the reasons for this, it can be argued that impulsive actions get ahead of the cognitive control mechanism as a result of women taking on male responsibilities and the growth in the number of issue circumstances they experience. Furthermore, the small number of male students who took part in the study is regarded to have aided in the discovery of this result. When examining at the research on the subject; according to the findings of a study conducted by Doğan Laçin and Yalçın (2019), there was no significant difference in the cognitive flexibility levels of university students in terms of men and women. In a study conducted by Güzeltepe (2017) with public personnel, it was concluded that cognitive flexibility did not differ according to gender. Teachers' motivation to educate did not differ considerably according to their gender in research conducted with them (İhtiyaroğlu,2017; İlğan, et al., 2018).

Another finding examined in the study concluded that the cognitive flexibility and cognitive control levels of child development students differed significantly depending on whether their mother was working or not. According to this finding, the cognitive flexibility and cognitive control levels of the students whose mothers work are higher than those of students whose mothers do not work. It was also found that students whose mothers retired had higher levels of cognitive flexibility and cognitive control than students whose mothers do not work. In other words, cognitive flexibility is affected by whether an individual's mother has a job or not. Furthermore, the study examined whether the cognitive flexibility levels, cognitive control levels and

cognitive alternative levels of child development students differed according to their father's profession, and found that the cognitive control levels of the child development students differed significantly according to the fathers' professions. This finding indicates that the cognitive flexibility control scores of child development students whose fathers do not work are higher than the cognitive flexibility control scores of child development students whose fathers work. In the study conducted by ,Erdoğan (2018) with teacher students for gifted students, it was revealed that there was a difference between cognitive flexibility levels according to the profession of parents. Following a study of the literature, it was discovered that there was limited research examining the father's profession variable and cognitive flexibility levels. As a result, this finding has the potential to make a significant contribution to the literature. However, similarly, in a study conducted by Kömür (2018), it was discovered that there is a difference in the cognitive flexibility levels of university students based on their parents' educational background. In their study, Nacar and Tümkaya (2011) also found a difference in cognitive flexibility levels based on the education level of the parents.

In the other finding examined, the cognitive flexibility levels and teaching motivations of child development students were examined and the analysis revealed a significant differentiation with the extrinsic sub-dimension of teaching motivation of child development students according to the variable of ranking among siblings. Accordingly, the extrinsic sub-dimension scores of the teaching motivation of the child development students who are the third among their siblings are higher than the scores of the child development students who are the first and second among their siblings. When the literature was examined, there was no finding examining the motivation to teach according to the variable of ranking among siblings. Therefore, it is thought that this finding will make important contributions to the literature. The variables of income status and number of siblings of child development students were analyzed in terms of cognitive flexibility and teaching motivation scores in the study's other findings, and as a result of, no significant difference was found between the variables of income status and number of siblings of child development students and cognitive flexibility and teaching motivation scores. The study by Zahal (2014) found no significant difference in cognitive flexibility scores based on income status. In the study conducted by Yazan (2019), no significant differentiation was found according to income level. However, after reviewing the literature, Diril (2011), Altunkol (2011), and Öz (2012) came to the conclusion that there was a strong relationship between cognitive flexibility and income status.

#### Conclusion and Recommendations

According to the findings, there is a favorable and significant association between cognitive flexibility skills and learning motivation in child development students. This conclusion is important in terms of being able to state that the cognitively flexible thinking capacity of child development students is related to and can affect their teaching situations. Another intriguing conclusion in the study is that there is a relationship between the ages of child development students and their levels of cognitive flexibility. Because it supports the notion that cognitive development develops with age. Another finding was that, contrary to the literature, male students had higher levels of cognitive control than female students. In contrast to the literature, this study examined whether the working status of the parents of child development students differed in the cognitive flexibility and teaching motivation levels of the students, and as a result of the examination, it was determined that the cognitive flexibility and cognitive control levels of the students whose mothers work were higher than the cognitive flexibility and cognitive control levels of the students whose mothers do not work. Moreover, it has been revealed that cognitive flexibility and cognitive control levels of child development students whose mothers are retired are higher than students whose mothers do not work. In addition, the study found that the cognitive flexibility control scores of the child development students whose fathers do not work were higher than the cognitive flexibility control scores of the child development students whose fathers work. These results show that the working status of the parents can affect the cognitive flexibility levels of the child. Furthermore, the absence of any other study examining parental employment status and cognitive flexibility in the literature makes these findings important in terms of the literature. Finally, the study revealed that there was a significant difference in the cognitive flexibility levels and teaching motivations of child development students according to the variable of ranking among siblings, and the extrinsic sub-dimension scores of the teaching motivations of the child development students who were third among the siblings were higher than the scores of the first and second among the siblings. This finding suggests that the rank of the individual in the family may be more affected by external factors such as siblings, environment, etc., in terms of teaching motivation. Some suggestions are given in line with the results of the study.

- Since cognitive flexibility levels are determined to be related to teaching motivation, studies can be carried out to improve the cognitive flexibility levels of each teaching individual.

- In addition, since the most effective period of cognitive flexibility is known to be between the ages of 21 and 30, university or graduate students should be provided with continuity of studies such as symposium panels aimed at improving cognitive flexibility.
- Individual and group research on cognitive control should be conducted in schools, with a focus on female pupils.
- Students with a large number of siblings and working mothers and fathers have a
  high degree of teaching motivation, according to the research. As a result, several
  studies for schools to enhance interpersonal relationships and work in groups in
  courses are recommended.

Makalenin Araş	Makalenin Araştırma ve Etik Beyanı Bilgileri					
Yazarın Çıkar Çatışması Beyanı	Araştırmaya konu olan durum, olgu veya kurum ile yazarlar arasında herhangi bir çıkar çatışması bulunmamaktadır					
Yazar (lar) Katkı Oranı Beyanı	Çalışmanın tamamlanmasında 1. yazarın katkı oranı %50, 2. yazarın katkı oranı %50'dir.					
Etik Kurul Onay Belgesi	Araştırmanın etik kurul onayı 06/04/2021 tarihinde Sağlık Bilimleri Üniversitesi Hamidiye Bilimsel Araştırmalar Etik Kurulu'nun E- 46418926-050.01.04-25521 No'lu kararı ile elde edilmiştir					

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### Çocuk Gelişimi Öğrencilerinin Bilişsel Esneklik Becerileri İle Öğretme Motivasyonları Arasındaki İlişkinin İncelenmesi

#### Genişletilmiş Özet

Çocuk gelişimi bölümü genel olarak sağlık bilimleri fakülteleri bünyesinde eğitimine devam eden bir bölümdür. Çocuk gelişimi profesyonellerinin görevlerine bakıldığında, süreç içerisinde çocuğun değerlendirilmesi ve gelişimsel tanının gerçekleştirilmesi, erken müdahale, destek veya eğitim aşamalarının çocuğun ve ailenin ihtiyaçlarına göre uygulanması gibi önemli sağlık hizmetleri, uygulama ve izlem, çocuk merkezli aile danışmanlığı yapılmaktadır (ÇUÇEP, 2016). Bu hizmetlere ek olarak, çocuk gelişim uzmanları aile bakanlığı, özel eğitim, sağlıklı yaşam, yaşam boyu öğrenme merkezleri ve okul öncesi eğitim kurumlarında sağlık personeli olarak veya pedagojik formasyon eğitimi sonrasında öğretmen olarak görev yapmaktadırlar.

Çocuk gelişimi programı öğrencilerinin bilişsel esneklik becerilerinin öğretme motivasyonlarını etkileyip etkilemediğinin araştırılması ile çocuk gelişimcilerin hem sağlık hem de eğitim alanında becerilerinin geliştirilmesine bu çalışmanın destek olabileceği düşünülmektedir. Bilişsel esneklik, bireyin genişleyen ortamında uyaranların çoğalması sonucu bu uyaranlar ile nasıl başedeceğini farkedebilmesi ve yeni durumlara kendini düzenleyebilme becerisi kazanabilmesidir (Crone ve ark. 2004). Eğitim veren kişinin bilişsel esneklik becerilerini maksimum seviyede kullanmasını sağlayan özelliklerinden birinin öğretme motivasyonu olduğu düşünülmektedir. Öğretme motivasyonu ise eğitim veren kişinin, hedeflediği yönde atılım gerçekleştirmeleri ve harekete geçmelerini sağlayan içsel veya dışsal çevreden dolayı güdülenmeleri olarak tanımlanabilmektedir (Ercan, 2000). Çocuk gelişimcilerin hem sağlıkçı hem de eğitimci yönleri ele alındığında ise, ilgili kavramların bu öğrenciler üzerinde uygulanması hem sağlık alanına hem de eğitim alanına katkı sağlayabileceği düşünülmektedir. Ayrıca çocuk gelişimci ve çocuk gelişimi adayları ile yapılan çalışmalar incelendiğinde genellikle sağlıkçı kimlikleri ile yapılan çalışmalara rastlanırken eğitim alanında yapılan çalışmalar çok sınırlı düzeyde olduğu görülmektedir. Bu kapsamda çalışmada çocuk gelişimi öğrencilerinin bilişsel esneklik becerileri ile öğrenme motivasyonları arasındaki ilişkiler incelenmek amaçlanmıştır.

#### Yöntem

Bu çalışma çocuk gelişimi öğrencilerinin bilişsel esneklik becerilerini ve öğrenme motivasyon ilişkisi üzerine etkisinin demografik değişkenlere göre farklılaşıp farklılaşmadığını ortaya koymak üzere nicel araştırma metodolojisi ile tasarlanmıştır. Çalışmada iki örnek arasındaki ilişkiyi araştırmak için ilişkisel tarama yaklaşımı kullanılmıştır. İki veya daha fazla değişken arasındaki ilişkiyi açıklamak için değişimin varlığı veya derecesi ilişkisel tarama modeli kullanılarak hesaplanır (Karasar, 2007). Türkiye genelinde çocuk gelişimi okuyan öğrenci sayısı 7000 olarak tanımlanmaktadır. Bu evren ışığında %5 anlamlılık düzeyinde örneklem hesaplaması gerçekleştirilmiştir ve 257 öğrenciye ulaşılmıştır. Çalışmanın verileri, Bilişsel Esneklik Envanteri (BEE) ve Öğretme Motivasyonu Ölçeği (ÖMÖ) kullanılarak toplanmıştır. Katılımcılardan alınan veriler üzerinde yapılan normalite testlerinin sonucunda verilerin normal dağılması nedeni ile parametrik testler uygulanmıştır.

#### Bulgular

Çalışmada yapılan korelasyon analizi sonucunda, çocuk gelişimi öğrencilerinin bilişsel esneklik becerileri ile öğrenme motivasyonları arasında pozitif yönde anlamlı ilişki olduğu bulmuştur. Ayrıca örgün çocuk gelişimi öğrencilerinin yaşı ile bilişsel esneklik becerileri ile onun iki alt boyutu olan alternatif ve kontrol boyutları arasında düşükorta düzeyde pozitif bir ilişki olduğu saptanmıştır. Ayrıca bilişsel esneklik, alternatif alt boyut, öğretmen motivasyonu ölçeği ve alt boyutları arasında cinsiyete göre anlamlı farklılık saptanmamıştır. Ancak bilişsel esnekliğin kontrol alt boyutunda kadın ve erkek arasında anlamlı farklılık bulunmuştur. Örgün çocuk gelişimi öğrencilerinin bilişsel esneklik ve bilişsel kontrol düzeylerinin annelerinin çalışıp çalışmamasına göre önemli ölçüde farklılaştığı sonucuna varılmıştır. Ayrıca örgün çocuk gelişimi öğrencilerinin bilişsel kontrol düzeylerinin anne ve babaların mesleklerine göre anlamlı düzeyde farklılaştığı ortaya çıkmıştır. Örgün çocuk gelişimi öğrencilerinin kardeş sıralaması değişkenine göre öğretim motivasyonunun dışsal alt boyutu ile anlamlı bir farklılaşma olmuştur.

#### Tartışma ve Sonuç

Örgün çocuk gelişimi öğrencilerinde bilişsel esneklik becerileri ile öğrenme motivasyonları arasındaki ilişkiyi incelemek için yapılan bu çalışma sonuçları; çocuk gelişimi öğrencilerinin bilişsel esneklik becerileri ile öğrenme motivasyonları arasında orta düzeyde pozitif anlamlı ilişki olduğunu ortaya koymuştur. Zahal'ın (2014) çalışmasında öğrenme stilleri ile sınav başarısı arasında güçlü bir bağlantı olduğu ve

bilişsel esnekliğin yüksek olduğu bulunmuştur. Ayrıca çalışma, örgün çocuk gelişimi öğrencilerinin yaşı ile bilişsel esneklik becerileri ile onun iki alt boyutu olan alternatif ve kontrol boyutları arasında düşük-orta düzeyde pozitif anlamlı ilişki bulunmuştur. Gürbüz ve Nartgün (2018) araştırmalarında bilişsel esneklik ile yaş arasında güçlü bir ilişki keşfettiler. Bulgulara göre 31-35 yaş grubundaki öğretmen adaylarının bilişsel esneklik puan ortalamaları, 20-25 ile 26-30 yaş grubundaki öğretmen adaylarının ortalama puan ortalamalarından daha yüksektir. Ayrıca, çocuk gelişimi öğrencilerinin yaşı ile bilişsel esneklik becerilerinin alt boyutu olan alternatif ve kontrol boyutları arasında ve öğrencilerin cinsiyetleri ile bilişsel esnekliğin kontrol alt boyutu arasında anlamlı bir fark saptanmıştır. Çocuk gelişimi öğrencilerinin bilişsel esneklikleri ve bilişsel kontrol düzeyleri ile kardeş sırası, anne ve babaların çalışma durumlarına göre anlamlı bir farklılık olduğu da elde edilen sonuçlar arasındadır. Gerçekleştirilen çalışmanın sonuçları doğrultusunda bazı öneriler verilmiştir.

- Bilişsel esneklik düzeylerinin öğretme motivasyonları ile ilişki olduğu bu çalışmada görülmektedir. Buna göre öğreten her bireyin bilişsel esneklik düzeylerini geliştirmeye yönelik çalışmalar yürütülebilir.
- Okullarda bilişsel kontrole yönelik bireysel ve grup çalışmaları özellikle kız öğrencilerle düzenlenmelidir.
- Araştırmada kardeş sayısı fazla olan ve annesi-babası çalışan öğrencilerin öğretme motivasyonlarının yüksek düzeyde olduğu görülmektedir. Buna göre okulların kişiler arası ilişkileri geliştirmelerine ve derslerde grup çalışmasına yönelik farklı çalışmaların yapılması önerilmektedir.