

Motivation in Preschool Children: The Predictive Effect of Anxiety Level

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Abstract

This study aimed to examine the relationship between motivation levels and anxiety levels of preschool children. Relational Screening Model was used in the research. The sample of the study consists of 48-72 months old children attending kindergartens and nursery classes of official primary schools affiliated with the Ministry of National Education in the central districts of Palandöken and Yakutiye in Erzurum province in the fall semester of the 2023-2024 academic year. The study data were collected using the "Personal Information Form", the "Motivation Scale for Preschool Children" and the "Anxiety in Preschool Children Scale (Teacher Form)". As a result of the study, it was determined that the motivation levels of the children did not differ according to the variables of gender and school type, and the anxiety levels of the children did not differ according to the gender variable ($p>0.05$), while the anxiety levels of the children differed significantly according to the variables of school type ($p<0.05$). It was determined that there was a negative and low-level significant relationship between the total score of the "Anxiety in Preschool Children Scale (Teacher Form)" and the sub-dimensions of the "Motivation Scale for Preschool Children" except for Social Persistence with Adults sub-dimension, and children's anxiety levels predicted their motivation levels.

Keywords: Anxiety, motivation, preschool, children.

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Okul Öncesi Çocuklarda Motivasyon: Kaygı Düzeyinin Yordayıcı Etkisi

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Öz

Araştırmanın amacı okul öncesi dönem çocuklarının motivasyon düzeyleri ile kaygı (anksiyete) düzeyleri arasındaki ilişkiyi incelemektir. Araştırmada İlişkisel Tarama Modeli kullanılmıştır. Araştırmanın örneklemini 2023-2024 eğitim öğretim yılının güz döneminde Erzurum ili Palandöken ve Yakutiye merkez ilçelerinde bulunan Milli Eğitim Bakanlığına bağlı resmi ilkokulların anasınıfları ve anaokullarına devam eden 48-72 aylık çocuklar oluşturmaktadır. Araştırmada veri toplama aracı olarak çocukların motivasyon düzeylerini ölçmek için “Okul Öncesi Çocuklar İçin Motivasyon Ölçeği (DMQ18)”, kaygı düzeylerini ölçmek için “Okul Öncesi Çocuklarda Anksiyete (Kaygı) Ölçeği (Öğretmen Formu)” ve araştırmacılar tarafından hazırlanan “Kişisel Bilgi Formu” kullanılmıştır. Araştırmanın sonucunda; çocukların motivasyon düzeylerinin cinsiyet ve okul türü değişkenlerine göre; çocukların kaygı düzeylerinin ise cinsiyet değişkenine göre farklılık göstermediği saptanırken ($p>0.05$); çocukların kaygı düzeylerinin okul türü değişkenlerine göre anlamlı farklılık gösterdiği saptanmıştır ($p<0.05$). “Çocuklarda Anksiyete (Kaygı) Ölçeği (Öğretmen Formu)”nin toplam puanı ile “Okul Öncesi Çocuklar İçin Motivasyon Ölçeği (DMQ18)”nin Yetişkinlerle Sosyal Sebat dışındaki alt boyutlarında negatif yönde ve düşük düzeyde anlamlı bir ilişki olduğu; çocukların kaygı düzeylerinin motivasyon düzeylerini yordadığı saptanmıştır.

Anahtar Sözcükler: Kaygı (Anksiyete), motivasyon, okul öncesi, çocuklar.

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Introduction

Children constantly make efforts to meet their needs, get to know the people around them, and adapt to their environment from the moment they come into the world. During this process, the child not only continues their development but also learns many positive and negative emotions and behaviors (Yılmaz Ünal & Çevik, 2023). If the wishes and desires of children are not immediately satisfied, a feeling of aggression arises in children. The suppression of this emotion, which is not socially accepted, leads to the unconscious formation of anxiety in the child (Gülay Ogelman & Çiftçi Topaloğlu, 2014). Anxiety is an emotional state that is innate in every person and can be seen in all age groups, the cause of which is not known exactly, and should exist as long as it is normal (Cüceloğlu, 2016; Le Gall, 2016; Mckenzie, 2006; Öztürk & Uluşahin, 2018).

Anxiety is crucial in terms of the child regulating their emotions resulting from interactions with their environment. The academic success of the child and the process of adapting to a new environment, along with factors such as age, gender, number of siblings, whether parents live together, parents' education level/profession/socio-economic status (Bora & Ünüvar, 2020; Uzun, 2013), the negative attitudes and behaviors displayed by the child's mother, father, other family members, and school teachers and friends (Ogelman & Çiftçi Topaloğlu, 2014; Layne et al., 2006), parental and teacher attitudes (Akgün et al., 2007), parent-child relationship (Yeşildaş, 2018), levels of mother-child attachment (Dönmez, 2019), and maternal anxiety status (Aydın, 2022; Dönmez, 2019; Hudson et al., 2011; Peleg et al., 2006; Shamir Essakow et al., 2005; Stone, et al., 2015; Yeşildaş, 2018; Wichstrøm et al., 2013) are observed to be effective on the anxiety levels of preschool children.

Children frequently displaying anxious behaviors during social interactions not only lead to their exclusion from the social environment (Gülay, 2009) but also have a negative impact on their learning motivation. Motivation is the internal desire and energy with which a child to perform an activity that they want to do without being externally dependent (Morey, 2017). Children with low levels of motivation tend to exhibit unwanted behaviors, have difficulty focusing on tasks, experience academic difficulties, lack patience and perseverance, show reluctance or disinterest in participating in activities and events, and feel inadequate in social relationships (Karaca, 2019; Lee, 2014; Özbey, 2018). On the other hand, children with high levels of motivation tend to exhibit less problematic behavior, have high reasoning skills, can control their behavior, make independent choices, express their emotions and thoughts positively, work independently, focus their attention on problem-solving (Köyceğiz Gözeler & Özbey, 2021) and demonstrate positive attitudes toward learning and learning environments, resulting in lower levels of anxiety (Ratelle et al., 2007).

The level of anxiety in the child affects the child's performance in different ways. While the state of anxiety that is not at the normal level negatively affects the child's life, the anxiety experienced at the normal level contributes to the success of the child, positively affects the decision-making ability, and increases the child's motivation for learning (Akgün et al., 2007; Cüceloğlu, 2016; Seven, 2011). When the relevant literature is examined, studies that examine the relationship between individuals' motivation and anxiety levels and obtain different results draw attention. Zakaria & Nordin (2008) found that there was a strong and significant negative relationship between mathematics anxiety and motivation. Ali & Iqbal (2014), Khodadady & Khajavy (2013) and Liu & Huang (2011) found that there was an inverse relationship between foreign language anxiety and motivation to learn. Müezzini & Özata (2019) determined that as children's anxiety levels increased, their motivation to learn decreased. Camacho et al., (2021) found that anxiety had a negative effect on children's academic motivation. Jain & Sidhu (2013) and Işık & Kügcümen (2021) concluded that as students' motivation levels increased, their anxiety levels decreased. Akpur (2017) examined the predictive and explanatory relationships of procrastination, motivation, anxiety, and academic success in a study and found that anxiety did not have a significant relationship with academic success. Yalçınsoy (2017), on the other hand, found that young people's future concerns had a positive and high-level effect on their motivation.

When the relevant literature is examined, it is seen that the studies are mostly concentrated in middle childhood and adolescence and there are very few studies on anxiety disorders in early childhood. The starting point of the study is the idea that children can be supported both academically and socially by bringing motivational behaviors such as establishing appropriate social relations with their peers, initiating, maintaining, and ending an activity, taking responsibility for their behaviors, participating in learning activities independently, solving problems, and expressing their feelings and thoughts appropriately. Therefore, this study is significant in drawing attention to the relationship

between motivation and anxiety, providing researchers with different perspectives for future studies, and being the first of its kind in the existing literature.

Method

Research Design

This study is a quantitative study. Since the study aimed to examine the relationship between children's anxiety and motivation levels, the "Relational Screening Model", which assists in determining the degree and/or presence of co-variation among two or more variables (Karasar, 2014) was employed.

Study Group

The study group comprised 386 children aged 48-72 months selected through a random cluster sampling method from a total of 3,211 children (N=3211) attending kindergarten and nursery classes of public preschools in the central districts of Palandöken and Yakutiye in the province of Erzurum during the 2023-2024 academic year. In this selection, firstly, the kindergartens and nursery classes of the official primary schools in the central districts of Palandöken and Yakutiye were listed, the easily accessible schools were selected according to the rule of impartiality, and the schools that were willing to participate in the study among these schools were included in the sample. In terms of gender distribution, 54.1% (n=209) of the children in the study group were female and 45.9 (n=177) were male. According to the school types, 53.1% (n=205) of the children attend kindergarten and 46.9% (n=181) attend nursery class.

Data Collection Tools

In the study, the data collection tools included the "Personal Information Form" prepared by the researchers, the "Motivation Scale for Preschool Children (DMQ18)" with the necessary permissions obtained to measure children's motivation levels, and the "Anxiety in Preschool Children Scale (Teacher Form)" used to measure anxiety levels.

Personal Information Form

The "Personal Information Form" prepared by the researchers enables the determination of information about children's gender and school type.

Motivation Scale for Preschool Children (DMQ18)

The "Motivation Scale for Preschool Children (DMQ18)" was developed by Morgan, Maslin-Cole, Harmon, Busch-Rossnagel, Jennings, Hauser Cram and Brockman in 1993. The scale, which has been developed for nearly 30 years, has been revised and arranged for school-age, infant, and preschool children. The DMQ18 was adapted into Turkish by Özbey & Dağlıoğlu (2017). In the reliability analysis of the scale, Spearman Brown two-halves test reliability and Cronbach Alpha reliability coefficients were calculated. (DMQ18) consists of 7 sub-dimensions and 39 items: Mastery Pleasure, Cognitive Persistence, Gross Motor Persistence, Negative Reactions, Social Persistence with Adults, Social Persistence with Peers, and General Competence. A decrease in the scores obtained from the scale indicates a decrease in motivation, and an increase indicates an increase in motivation. The item factor loading values of the scale vary between .51 and .94. The total variance explained by the factors is .71.

Anxiety in Preschool Children Scale (Teacher Form)

The Turkish adaptation, validity, and reliability study of the scale developed by Spence et al. (2001) was conducted by Şahin (2021). The scale is filled in by the teacher, one for each child. It was determined that the items in the scale explained 45% of the total variance. As a result of the conducted analyses, the scale was finalized with 21 items and a single dimension. The Cronbach Alpha coefficient of the scale was determined as 0.939. The correlation coefficients of the scale items ranged between 0.484 and 0.744, and the factor load values of the items ranged from 0.38 to 0.41. The results obtained prove that the scale is valid and reliable.

Data Analysis

The data obtained from the scales were computerized and analyzed using the SPSS 22 software. In the process of analyzing the data, firstly, the skewness and kurtosis values were examined to determine whether the data showed a normal distribution, and it was determined that the values showed

a normal distribution since the values obtained were between -2 and +2. Therefore, parametric tests were used in the analysis of the data. Independent Groups t-Test was used to determine whether the scores obtained from the scales differed according to gender and school attendance variables. Pearson Correlation Test was used to determine the relationship between the scores of the children from the Anxiety in Preschool Children Scale (Teacher Form) and the DMQ18. Simple Linear Regression analysis was conducted to determine the predictive level of anxiety on motivation.

Ethical Procedures

Ethics committee permission numbered E-77082166-604.01.02-387556 and Ministry of National Education (MoNE) permission numbered E-49614598-605.01-87690847 were obtained for the scales to be used in the study. In the determined schools, the purpose of the study was explained to the teachers, they were asked to fill in one of the scales for each child, and the filled scales were received from the teachers.

Results

This section of the study presents the findings of the sampling, the findings on whether the DMQ18 and the Anxiety in Preschool Children Scale (Teacher Form) scores differ according to gender and school type variables, the findings on the correlation between anxiety and motivation levels, and the findings on the predictive level of anxiety on motivation.

Motivation / Gender

Table 1. Independent Sample T-Test results for the Motivation Scale for Preschool Children (DMQ18) and sub-dimensions according to the gender variable

Motivation Scale for Preschool Children (DMQ18)	Dimensions	Gender	N	X	SD	sd	t	p
	Cognitive Persistence		Female	209	17.4498	4.24022	384	1.302
		Male	177	16.8927	4.12377			
Gross Motor Persistence		Female	209	18.9282	4.23693	384	.945	.109
		Male	177	18.5367	3.83318			
Social Persistence with Adults		Female	209	17.4737	4.81290	384	.950	.641
		Male	177	17.0113	4.70733			
Social Persistence with Peers		Female	209	21.7703	4.51545	384	.965	.458
		Male	177	21.3333	4.33494			
Mastery Pleasure		Female	209	19.5120	4.26537	384	.366	.513
		Male	177	19.3559	4.07081			
Negative Reactions		Female	209	27.1292	6.38038	384	-.164	.412
		Male	177	27.2316	5.82681			
General Competence		Female	209	18.2823	4.02656	384	.853	.951
		Male	177	17.9322	4.00510			

As can be seen in Table 1, the scores of the females on DMQ18 sub-dimensions were generally higher than those of males, but no significant difference was found ($p>0.05$).

Motivation / School Type

Table 2. Independent Sample T-Test results for the Motivation Scale for Preschool Children (DMQ18) and sub-dimensions according to the school type variable

		Dimensions	School Type	N	X	SD	sd	t	p
Motivation Scale for Preschool Children (DMQ18)	Cognitive Persistence		Kindergarten	205	17.2098	3.99017	384	.077	.092
			Nursery Class	181	17.1768	4.41861			
	Gross Motor Persistence		Kindergarten	205	18.6293	3.98270	384	-.615	.589
			Nursery Class	181	18.8840	4.14499			
	Social Persistence with Adults		Kindergarten	205	17.7366	4.35089	384	2.093	.073
			Nursery Class	181	16.7238	5.15223			
	Social Persistence with Peers		Kindergarten	205	21.5854	4.24481	384	.073	.443
			Nursery Class	181	21.5525	4.64922			
	Mastery Pleasure		Kindergarten	205	19.3561	4.08068	384	-.422	.482
			Nursery Class	181	19.5359	4.28370			
	Negative Reactions		Kindergarten	205	27.7756	6.18017	384	2.055	.387
			Nursery Class	181	26.4972	6.00706			
	General Competence		Kindergarten	205	18.1561	3.87488	384	.179	.282
			Nursery Class	181	18.0829	4.17915			

As can be seen in Table 2, it was determined that there was no significant difference in DMQ18 sub-dimension scores based on the types of schools the children attend ($p>0.05$).

Anxiety / Gender

Table 3. Independent Sample t-Test results for the Anxiety in Preschool Children Scale (Teacher Form) and sub-dimensions according to the gender variable

		Gender	N	X	SD	sd	t	p
Anxiety in Preschool Children Scale (Teacher Form)		Female	209	14.3349	18.82875	384	.501	.606
		Male	177	13.3729	18.79092			

As can be seen in Table 3, the Anxiety in Preschool Children Scale (Teacher Form) sub-dimension scores did not differ significantly according to the gender variable ($p>0.05$).

Anxiety / School Type

Table 4. Independent Sample t-Test Results for the Anxiety in Preschool Children Scale (Teacher Form) and Sub-Dimensions According to the School Type Variable

		School Type	N	X	SD	sd	t	p
Anxiety in Preschool Children Scale (Teacher Form)		Kindergarten	205	16.0927	20.45455	384	2.462	.001
		Nursery Class	181	11.4033	16.41638			

As can be seen in Table 4, when the scores of the Anxiety in Preschool Children Scale (Teacher Form) were examined based on the types of schools the children attend, a significant difference was determined in favor of the children attending kindergarten ($p<0.05$). It is seen that the mean score of the children attending kindergarten ($X=16.09$) is higher than the mean score of the children attending nursery class ($X=11.40$). In other words, it can be stated that children attending kindergarten are more anxious than children attending nursery classes.

The Relationship Between Anxiety and Motivation Levels in Children

Table 5. Results of Pearson Correlation Analysis of Anxiety in Preschool Children Scale (Teacher Form) and DMQ18

Variables	Anxiety		Cognitive Persistence	Gross Motor Persistence	Social Persistence with Adults	Social Persistence with Peers	Mastery Pleasure	Negative Reaction	General Competence
	r	1							
Anxiety in Preschool Children Scale (Teacher Form)			-.108*	-.123*	.067	-.061	-.153**	.020	-.136**
	p		.033	.015	.186	.228	.003	.689	.007
	N	386	386	386	386	386	386	386	386

As can be seen in Table 5, a low, negative, and significant relationship was found between the Anxiety in Preschool Children Scale (Teacher Form) and the Cognitive Persistence ($r=-.108$), Gross Motor Persistence ($r=-.123$), Mastery Pleasure ($r=-.153$), and General Competence sub-dimensions of the DMQ18. In other words, as the motivation levels of preschool children increase, their anxiety levels decrease.

Table 6. Simple Linear Regression Analysis on the Prediction of Children's Anxiety Levels on Motivation Levels

Dependent variable	Independent Variable	B	Std. Error	β	t	p	R	R ²
Cognitive Persistence	Constant	17.53	.264		66.353	.000	.108	.012
	Anxiety	-0.24	.011	-.108	-2.134	.033		
Gross Motor Persistence	Constant	19.119	.255		74.903	.000	.123	.015
	Anxiety	-0.27	.011	-.123	-2.436	.015		
Social Persistence with Adults	Constant	17.024	.301		56.482	.000	.067	.005
	Anxiety	.017	.013	.067	1.325	.186		
Social Persistence with Peers	Constant	21.772	.281		77.595	.000	.061	.004
	Anxiety	-.015	.012	-.061	-1.207	.228		
Mastery Pleasure	Constant	19.913	.261		76.161	.000	.153	.023
	Anxiety	-.034	.011	-.153	-3.038	.003		
Negative Reactions	Constant	27.084	.388		69.747	.000	.020	.000
	Anxiety	.007	.017	.020	.401	.689		
General Competence	Constant	18.526	.252		73.449	.000	.136	.019
	Anxiety	-.029	.011	-.136	-2.696	.007		

As can be seen in Table 6, children's scores on the Anxiety in Preschool Children Scale (Teacher Form) significantly predicted their scores on the Cognitive Persistence, Gross Motor Persistence, Mastery Pleasure, and General Competence sub-dimensions of the DMQ18.

Children's anxiety levels explained 1.2% of the total variance of the Cognitive Persistence sub-dimension ($R^2=0.12$; $p<0.05$), 1.5% of the total variance of the Gross Motor Persistence sub-dimension ($R^2=0.15$; $p<0.05$), 2.3% of the total variance of the Mastery Pleasure sub-dimension ($R^2=0.23$; $p<0.05$), and 1.9% of the total variance of the General Competence sub-dimension ($R^2=0.19$; $p<0.05$). In other words, it can be stated that children's anxiety levels significantly predicted their motivation levels in the sub-dimensions of Cognitive Persistence, Gross Motor Persistence, Mastery Pleasure, and General Competence.

Discussion, Conclusion and Recommendations

The present study concluded that the motivation levels of the children did not differ according to the variables of gender and school type (Table1, Table2). When the relevant literature is examined, there are studies in which gender does not affect the motivation levels of children, as well as studies showing that the motivation levels of females are higher than males. Although there was no significant difference found in terms of gender in this study, the motivation levels of females were found higher than males. Kara, (2021); Özbey, (2018) and Uluçay, (2017) concluded that children's motivation levels did not differ according to the gender variable. On the other hand, Britner & Pajares, (2001); Lightbody et al., (1996); Öner & Özbey, (2023) and Özbey & Dağlıoğlu, (2017) concluded that the motivation levels of females were higher than the motivation levels of males. Many factors such as girls' upbringing, their ability to produce more practical solutions to problems, the assignment of responsibilities to girls at an early age, and girls' ability to think more carefully and in detail in the face of events may have caused girls' scores to be higher in the study. Yerlikaya (2014) determined that children who received kindergarten or nursery class education had higher levels of motivation during primary and middle school education compared to those who did not receive such education. Özbey (2018) identified a significant difference in favor of children attending independent kindergartens in terms of motivation levels, based on the variable of the type of school the child attends. Öner and Özbey (2023) found that children attending nursery classes displayed higher motivation levels compared to those attending kindergartens. The involvement of teachers in nursery classes in planning educational activities more systematically, the limited nature of the educational environment compared to kindergartens, the arrangement of toys and materials in the classroom to allow for the child's independent choices, and the design of the classroom order to facilitate comfortable communication with peers may have contributed to higher motivation levels among children in nursery classes.

The learning environment to be offered to children in early childhood has a great impact on children's motivation to learn. The child feeling valued in the classroom, teachers arousing curiosity in children regarding learning, designing the classroom environment in a motivating way, and establishing positive relationships with children are factors that motivate children to actively participate in learning activities (Lumsden, 1994). Aktepe et al. (2014) argue that children's motivation for learning will be high as long as the teacher keeps children's curiosity alive during learning activities, includes interesting activities in their activity plans, ensures that the education process is effective and efficient, and behaves affectionately towards children. Therefore, the positive classroom climate created by the teacher, warm relationships established with the children, planning activities related to the common interests and needs of the children, providing equal opportunities to children, and teacher attitudes in this study may not have resulted in any differences in the motivation levels of children based on the type of school and gender variables.

As a result of the study, it was determined that the anxiety levels of the children did not change according to the gender variable (Table 3), and according to the school type variable, the children attending kindergarten were more anxious than the children attending nursery class (Table 4). In the relevant literature, some studies have found no effect of gender on children's anxieties, as well as studies that have concluded that anxiety levels vary according to gender. Bosquet & Egeland (2006); Dede & Dursun, (2008); Else-Quest et al., (2006); Gülay Ogelman & Çiftçi Topaloglu, (2014); Güngör, (2009); Kurbanoğlu & Takunyacı, (2012); Kutluca et al., (2015); Tümkaya et al., (2007) and Yılmaz & Çokluk, (2016) concluded that children's anxiety levels did not differ according to their gender. Bora & Ünüvar, (2020); Bouldin & Pratt, (1998); Essau et al., (2002); Nauta et al., (2004); Pauluset al., (2015); Yeşildaş, (2018); Spence, (1998); Wichstrøm et al. (2012) concluded that the anxiety level of females is higher than that of males. Şentürk, (2010) and Şugüneş, (2022), on the other hand, found that males have higher anxiety levels than females.

Considering the lack of knowledge and experience of preschool children, it is understandable that they experience anxiety about many issues (Aydın, 2022). The fact that the teacher makes the children feel safe in the classroom environment, approaches the children warmly and affectionately, makes plans for the interests and needs of the children, and anticipates and adapts to all kinds of situations that may cause anxiety may have caused there to be no difference in the anxiety levels of females and males.

When the relevant literature is examined, it is seen that different results regarding the school-type variable are obtained in studies that deal with similar issues focused on children's social-emotional development. Güngör (2009) found that children attending nursery classes in primary school experienced higher anxiety compared to children attending independent kindergartens. Özbey et al. (2018) reported that the quality of life levels of children attending nursery classes affiliated with primary education and independent kindergartens were higher than those attending private preschool institutions. Erata & Özbey (2020) determined that children attending independent kindergartens had higher levels of psychological resilience. Bakan & Özbey (2022) found no variation in children's academic self-esteem based on the type of school. Şugüneş (2022) determined that children attending public schools had higher anxiety levels compared to children attending private schools.

In this study, children attending independent kindergarten had lower motivation levels and higher anxiety levels than children attending nursery classes. The result draws attention to the importance of arrangements that can be made in educational environments, such as allowing children to act independently and make choices without hindering them, preparing materials that will encourage children to cooperate by taking into account their interests and needs and providing children with the opportunity to use their creativity and imagination in the classroom and to use the natural materials they encounter in their daily lives. It can be stated that in an educational environment where rules and boundaries are clearly defined, children are likely to feel safe and comfortable, leading to increased motivation for activities and potentially reducing the level of anxious behaviors exhibited in classrooms. In addition, it is important to investigate the type of support needed in independent kindergarten educational environments to enhance children's motivation and reduce anxiety levels.

It was determined that there was a negative and low-level significant relationship between children's anxiety levels and motivation levels, except for the Social Persistence with Adults sub-dimension (Table 5). However, regression analysis revealed that children's anxiety levels negatively predicted the Cognitive Persistence sub-dimension of the motivation scale by 1.2%, the Gross Motor Persistence sub-dimension by 1.5%, the Mastery Pleasure sub-dimension by 2.3% and the General Competence sub-dimension by 1.9% (Table 6). When the literature is examined, it is seen that different results are obtained in studies conducted with different samples and age groups regarding the relationship between children's motivation levels and anxiety levels. Upon reviewing the conducted studies, Zakaria & Nordin (2008) and Külünk Akyurt (2019) found a significant negative relationship between mathematics anxiety and motivation, Müezzın & Özata (2019) found a significant negative relationship between anxiety related to science and motivation, and Ali & Iqbal (2014), Khodadady & Khajavy (2013), and Liu & Huang (2011) determined a significant negative relationship between foreign language anxiety and learning motivation. Jain & Sidhu (2013) and Işık & Küğcümén (2021) concluded that as students' motivation levels increased, their anxiety levels decreased.

In light of the study results, the following recommendations can be made.

- In the study, it was determined that children attending kindergarten were more anxious than children attending nursery classes. It is recommended to conduct case studies that address factors in the school, family, and child contexts that may reveal anxiety in kindergartens.
- It is recommended that preschool teachers develop alternative education programs that will reduce children's anxiety levels in cooperation with the MoNE and universities and guide the preparation of educational materials.

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