Chapter 2

The Relationship Between Self-Regulation Skills and Anxiety Levels in Preschool-Aged Children[1]

Ayyüce Öksüz[2]

Atila Çağlar[3]

Abstract

Early childhood is a foundational period in life, during which developmental domains and skills begin to emerge. One of these skills is self-regulation. Self-regulation skills involve the ability of an individual to control their emotional, cognitive, and behavioral characteristics. This study was conducted to examine the relationship between self-regulation skills and anxiety levels in preschool children. To this end, the study focused on the relationship between children's self-regulation skills and anxiety levels, and whether this relationship showed significant differences based on demographic characteristics.

The research was carried out with the parents of 402 children aged 4-6 years who were attending preschool education institutions in the province of Samsun. To measure children's self-regulation skills, the Self-Regulation Skills Scale for 4-6-Year-Olds (Parent Form) was used. To assess the anxiety levels of preschool children, the Preschool Anxiety Scale adapted for 4-6-year-old children was utilized, along with a personal information form created by the researcher for families and children.

For the analysis of research data, statistical techniques such as Pearson Correlation Analysis, MANOVA, ANOVA, and t-tests were employed following a normality assessment. The results of the study revealed a low-level, negative correlation between children's self-regulation skills and anxiety levels. As children's self-regulation skills increased, their anxiety levels decreased, or conversely, as anxiety levels increased, self-regulation skills declined. It was concluded that, in terms of the impact of self-regulation skills on anxiety levels, the other hypotheses did not show a significant difference.

1 This study was derived from the master's thesis titled "The Relationship Between Self-Regulation Skills and Anxiety Levels in Children Aged 4-6," prepared by the first author.

2 Lecturer, Artvin Çoruh University, ayycksz@gmail.com, ORCID ID: 0000-0003-2195-1879

3 Prof. Dr., Kastamonu University, acaglar@kastamonu.edu.tr, ORCID ID: 0000-0003-0749-2688

https://doi.org/10.58830/ozgur.pub534.c2197

1. Introduction

Human development, beginning with the initial formation in the mother, continues to evolve throughout life, shaped by genetic, biological, psychological, and social processes. This developmental journey is complex, with interactions that contribute to individual differences by creating unique impacts on each person. Every developmental phase is influenced by prior experiences and, in turn, affects subsequent stages. Skills acquired early serve as a foundation for those required in later stages. Positive or negative experiences during infancy and early childhood significantly impact later life. As children prepare for elementary school, they develop physically, mentally, and emotionally, and they learn essential skills such as sharing, functioning individually within a group, socializing, and cooperating with others.

The preschool period is a crucial developmental phase, laying the foundation for all developmental domains and skills and setting the stage for later growth (Akbaş, 2007). In this period, children make choices, solve daily problems, and begin to develop conscious control over their actions—skills that are known as self-regulation. Self-regulation is fundamental to early childhood, influencing a range of behavioral domains (Shonkoff & Phillips, 2000). Terms like "self-control," "impulse control," and "self-management" are used interchangeably in psychology to describe aspects of self-regulation, reflecting the diversity of perspectives across different theoretical frameworks (Bronson, 2019). The rapid development of the brain during preschool years supports the maturation of cognitive, motor, language, social, and emotional skills, enabling children to thrive when their developmental needs are met. This solid foundation positions children to become productive individuals in the future (Myers, 2004). Consequently, the preschool period is often regarded as a critical stage of life.

The concept of self-regulation emerged in the 1980s with the rise of research in social psychology and personality development, spearheaded by Bandura's social learning theory. In the 1990s, the scope of self-regulation broadened to include dimensions such as "self-control," "self-management," and "self-directed learning" (Boekaerts, Zeidner, & Pintrich, 2000).

In his social learning theory, Bandura (1989) associated the regulation of motivation and performance with various self-regulation mechanisms, highlighting factors such as emotional regulation, self-efficacy, and goal-setting. Eisenberg et al. (2011) argued that self-regulation is best understood not as a single concept but in behavioral, emotional, and cognitive dimensions, each distinct yet interconnected. For instance, Ursache et al. (2012) emphasized differences between emotional and cognitive regulation,

while Eisenberg et al. (2012) highlighted distinctions between intrinsic and extrinsic motivation within self-regulation processes (as cited in Ziv, Benita, & Sofri, 2017). Recognizing the importance of developing self-regulation skills in childhood underscores the significance of fostering individuals who can understand and manage themselves effectively, make sound decisions, and maintain self-control in challenging situations (Bauer & Baumeister, 2011; Posner & Rothbart, 2009).

Emerging as early as the prenatal period, self-regulation evolves with age into a complex skill. In infancy, it begins with meeting basic needs like nutrition, sleep, and care, eventually progressing into cognitive, emotional, and behavioral regulation shaped by environmental influences. The development of self-regulation is influenced by caregivers, peers, and all aspects of the child's environment (Sameroff, 2008).

Kopp (1982) divides self-regulation development into five stages: the neurophysiological stage (0-3 months), sensorimotor stage (4-9 months), control stage (9-18 months), self-control stage (24-36 months), and self-regulation stage (36 months and beyond). Achieving self-regulation skills allows children to manage their behaviors, enabling them to develop into unique individuals. Between ages 4 and 6, self-regulation skills tend to increase in parallel with brain development, making these skills more observable (Ertürk et al., 2018). During this period, self-regulation is primarily oriented towards controlling spontaneously initiated behaviors. Self-regulation emerges through the processes of "self-directed speech," "regulating others," and "internalizing rules." Over time, situational encounters and acquired experiences facilitate the internalization of these rules. Once children internalize rules, they realize the need to regulate their behavior not for others, but for themselves (Bodrova & Leong, 2010).

Self-regulation skills, which have a complex structure, are interpreted differently across various theories. In psychoanalytic theory, self-regulation develops as a result of emotional needs and impulses (Freud, 1933). Behavioral theory, however, defines self-regulation as a set of skills learned through external influences. Social learning theory posits that self-regulation skills develop through observation, self-management, and intrinsic motivation. According to social cognitive theory, self-regulation is the ability to direct one's own behavior through self-control. Among cognitive theorists, Piaget views self-regulation as the adaptation of mental processes to align optimally with the external environment, while Vygotsky suggests that self-regulation develops through language, which, guided by inherent curiosity, directs behavior and thought through self-talk (Bronson,

2019). Information processing theory defines self-regulation as a set of executive functions that utilize both innate and learned programs (Siegler, 1989). Summarizing previous research, Kopp describes self-regulation as a multifaceted, interactive structure encompassing the regulation of emotions, behavior, motivation, and attention (Kopp, 1982).

Researchers examining cognitive self-regulation skills have also studied children who succeed academically, identifying common traits among them: awareness of their learning processes, efforts to address problems when encountered, ability to organize their learning environment, and access to support from adults or peers (as cited in Berk, 2015). These studies suggest that fostering self-regulation skills in early childhood enables children to tackle future challenges more effectively, boosting their confidence as they find appropriate ways to cope with stress (Schunk & Zimmerman, 2001). Self-regulation skills are essential for helping children become aware of their emotions, plan responses and thoughts to various situations, control impulses, and use planning and organizational skills to achieve their goals.

The concept of anxiety can be defined as a state in which a person feels threatened and uneasy in relation to a situation, person, or object, with the exact cause often unknown. Although anxiety is generally perceived as a negative concept, it varies in duration and intensity, and can be classified as an emotional disorder depending on these factors (Foxman, 2004). Individuals experiencing normal levels of anxiety can achieve success and manage threatening situations effectively. For instance, if a student preparing for an exam experiences a normal level of anxiety, it may motivate them to study, and during the exam, this level of anxiety can enable them to recall information more easily.

On the other hand, abnormal levels of anxiety negatively impact a person's life. For example, a student with high anxiety might struggle to concentrate on studying, comprehend the material, or may forget what they know during the exam due to heightened anxiety, leading to confusion (Cüceloğlu, 1998).

Anxiety is often associated with various emotions, such as sadness, helplessness, uncertainty, and criticism. It arises when an individual perceives a neutral situation as threatening and reinforces this perception over time (Eren Gümüş, 2006). Terms like worry, stress, and depression frequently appear alongside anxiety, as these concepts involve negative attitudes towards past and future events, contributing to the formation of anxiety (Köknel, 2005). Anxiety, although its causes are not entirely clear, is a state of worry that can manifest at different times and in various situations (Le Gall, 2012).

Anxiety has been widely studied in conjunction with various other topics and has emerged as a factor that affects functionality when it reaches excessive levels. It can be asserted that it impacts the functionality of not only adults but also children in their lives. Anxiety is considered an emotional state that, when maintained at a certain level, can motivate individuals to take action, yet, when it surpasses a specific threshold, it leads to debilitating and challenging outcomes (Spielberger, 1972).

Although the concept of anxiety is perceived negatively, it is a natural part of our lives. However, when the intensity and frequency of anxiety increase to an unmanageable level, it is categorized among emotional disorders. Among these disorders, anxiety is the most commonly observed (Foxman, 2004).

Foxman (2004) describes anxiety as a feeling of fear and apprehension that can arise from various causes, the exact origins of which are often unknown. Spielberger (1966) categorized anxiety into two types: state anxiety and trait anxiety. State anxiety is a temporary response that occurs in dangerous situations, while trait anxiety arises when individuals frequently perceive events as threatening. It can be said that anxious children exhibit four fundamental issues: 1) difficulty calming themselves in stressful situations, 2) challenges in utilizing cognitive processes, 3) giving up on trying out their plans, and 4) an inability to recognize the feelings associated with their anxiety despite showing efforts to alleviate them (Dacey, Mack, & Fiore, 2017).

Alfred Adler, a proponent of individual psychology, defines the individual's purpose as adapting to society and expresses anxiety as a condition characterized by the display of inferiority and superiority complexes while attempting to fit into society. Adler posits that every individual begins with a sense of inferiority (inadequacy) and that this feeling is universal. A child experiencing feelings of inferiority spends a prolonged period reliant on an adult for survival. During this experience, the child compares themselves to strong, large adults in their environment and develops feelings of inferiority or superiority complexes when they aspire to be like them. This condition induces anxiety in individuals (Hazar, 2006). According to behavioral theory, anxiety is learned. Anxiety dissipates with the removal of conditioned stimuli.

In social learning theory, Bandura states that anxiety develops through observation and modeling of the child's family. According to the cognitive approach, anxiety is determined by the individual's perception and

interpretation of events. Anxiety arises when there is a distortion in thought between perception and interpretation (Serin & Öztürk, 2007).

Anxiety disorders encompass subdimensions in both adults and children. These subdimensions include specific (simple) phobia, social phobia, separation anxiety, generalized anxiety disorder, panic disorder, agoraphobia, obsessive-compulsive disorder (OCD), and post-traumatic stress disorder (PTSD), consisting of a total of eight subdimensions (Spence, Rapee, McDonald, & Ingram, 2001; Dacey, Mack, & Fiore, 2017).

Despite the presence of numerous factors that contribute to anxiety, Foxman (2004) categorizes them into three main headings: personality, biological sensitivity, and stress. Biological sensitivity can be explained by genetic predisposition. Indicators of this may include hormonal imbalances and sensitive temperament. Anxiety emerges as a result of the child's experiences and biological sensitivity.

Anxiety is necessary to motivate various tasks in daily life; however, as its level increases, it transforms into a disorder. Anxiety disorders can be observed in children, adolescents, middle-aged individuals, and adults, meaning they can affect individuals of all ages.

A child's development comprises distinct stages, each bringing new learning opportunities. New situations and events in a child's life can lead to the emergence of anxiety. A child's personality is shaped by their experiences and biological factors, ultimately resulting in the development of an anxiety profile. Children with this profile tend to exhibit notable characteristics, such as a propensity for worry, a desire to please others, a heightened sense of responsibility, and the establishment of high standards for achievement. When faced with stress, these children often respond excessively due to their difficulty in effectively managing stress (Foxman, 2004).

Among the causes of anxiety in children aged 4 to 6, factors such as stranger anxiety, loud noises, animals, darkness, water, and separation from caregivers can be listed (Dacey, Mack, & Fiore, 2017). Because children in this age group may not express themselves as well as adults (Cebeci, 2009), it is essential for families to observe their children. Children who are overly restricted and less accepted by their families may exhibit elevated levels of anxiety. Spence et al. (2001) noted that anxieties arising in early childhood can impact future life outcomes. According to Foxman, there are specific characteristics that should be monitored to keep anxiety levels as low as possible in normally developing children: preschool-aged children should be provided with play environments and encouraged to engage in play, books

should be read to them, curiosity should be supported, symptoms related to stress should be monitored, and environments that may induce stress should be structured appropriately (Foxman, 2004).

Just as adults display certain reactions when feeling anxious, children also show anxiety symptoms in similar situations. However, because children may struggle to articulate their feelings, their anxiety can go unnoticed. This has resulted in a delayed initiation of research on anxiety during childhood (Dacey, Mack, & Fiore, 2017).

It can be considered that the concepts of anxiety and self-regulation may be indirectly related to one another. Preschool children may attempt to solve problems encountered in daily life through steps such as monitoring, making predictions, and planning, based on the experiences they gain within their families and environments. These stages may contribute to the development of the children's self-regulation skills. As children acquire skills for self-control and regulation in their emotions and behaviors, their levels of anxiety may decrease. Therefore, it is thought that research should be conducted on the interactions between these two concepts in terms of managing and promoting positive levels of anxiety in children.

The early childhood period is foundational for life, and during this stage, various developmental domains and skills begin to emerge. One of these skills is self-regulation. Self-regulation skills can be described as emotional abilities such as being aware of emotions, controlling them, mitigating the effects of negative situations, and managing anger, as well as cognitive characteristics like maintaining attention, preventing distraction, and redirecting focus when necessary. The aim of supporting self-regulation skills in children is not to train them to comply with challenging rules, but rather to assist them in developing these skills by enabling them to conduct self-assessments using internal guidelines.

2. Methodology

2.1. Research Design, Population, and Sample

This study employed a correlational survey model to investigate the relationship between self-regulation skills and anxiety levels in children aged 4-6 years. The correlational survey model is used to determine the nature and strength of relationships among variables without any intervention by the researcher (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014). In line with this model, variables that may affect self-regulation skills and anxiety levels—such as the child's gender, age, and parental education level—were identified, and data were collected to analyze their relationship.

The population of this study consisted of parents with children aged 4-6 years attending official preschools and private educational institutions in the province of Samsun during the 2019-2020 academic year. The sample included 402 parents selected through purposeful sampling to ensure a heterogeneous distribution across official preschools and private educational institutions. Purposeful sampling is a method that selects samples based on predetermined criteria aligned with the research objectives (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014).

Table 1. The emergence of children according to their gender and experiences

Tables		n	%
Gender	Girl	181	45,0
	Boy	221	55,0
Age	4	120	29,9
	5	138	34,3
	6	144	35,8
	Total	402	100

Table 2. Distribution of parents according to educational status

Tables	Educational Status	n	%
	Primary School	82	20,4
	Secondary School	86	21,4
	High School	101	25,1
	Higher Education	133	33,1
	Total	402	100

2.2. Data Collection Tools

2.2.1. Personal Information Form

A personal information form was developed by the researcher to gather information on the gender, age, and parental educational background of children aged 4-6 years.

2.2.2. Self-Regulation Skills Scale for 4-6-Year-Old Children (Parent Form)

To measure self-regulation skills based on parental perspectives, the Self-Regulation Skills Scale for 4-6-Year-Old Children (Parent Form) developed

by Erol and İvrendi (2018) was utilized. This scale is a 5-point Likert-type measure consisting of 20 items, with scores ranging from a minimum of 20 to a maximum of 100 points. Higher scores indicate stronger self-regulation skills. The scale includes four sub-dimensions: attention, working memory, inhibitory control-emotion, and inhibitory control-behavior. The internal consistency reliability coefficient (Cronbach's alpha) was found to be 0.90 for the entire scale, with sub-dimension reliability coefficients of 0.89 for attention, 0.89 for working memory, 0.82 for inhibitory control-emotion, and 0.77 for inhibitory control-behavior (Erol & İvrendi, 2018).

2.2.3. Revised Preschool Anxiety Scale for Children Aged 4-6

The Revised Preschool Anxiety Scale, adapted to Turkish by Güler (2016) based on the original scale by Edwards, Rapee, Kennedy, and Spence (2009), was used to measure the anxiety levels of 4-6-year-old children. This scale consists of 30 items rated on a 5-point Likert scale. The reliability analyses showed a Cronbach's alpha of .90 and a McDonald's omega of .92 for the overall scale. Test-retest reliability coefficients were .53 for social anxiety, .35 for generalized anxiety, .55 for separation anxiety, .59 for specific fears, and .53 for the total score (Güler, 2016).

2.3. Hypotheses

The following hypotheses were proposed:

1. There is a significant relationship between self-regulation skills and anxiety levels in children aged 4-6.
2. The relationship between self-regulation skills and anxiety levels differs significantly by gender.
3. The relationship between self-regulation skills and anxiety levels differs significantly by age.
4. The relationship between self-regulation skills and anxiety levels differs significantly by parental education level.
5. Self-regulation skills differ significantly by gender.
6. Self-regulation skills differ significantly by age.
7. Self-regulation skills differ significantly by parental education level.
8. Anxiety levels differ significantly by gender.
9. Anxiety levels differ significantly by age.
10. Anxiety levels differ significantly by parental education level.

2.4. Data Analysis

The data were analyzed using SPSS (Statistical Package for Social Sciences) version 22.0, a widely used tool in social sciences research. Before analysis, data accuracy, missing values, and outliers were checked. Descriptive statistics were used to summarize information on the children's age, gender, and parental education level.

The research data was examined for normal distribution. It was found that the skewness value of the self-regulation skills scale items in the mother form for children aged 4-6 years was -0.428, and the kurtosis value was -0.520. In the preschool anxiety scale, which was rearranged for preschool children aged 4-6, the skewness value of the items was observed to be 0.340, while the kurtosis value was -0.370. Tabachnick and Fidell (2013) stated that when the kurtosis and skewness values fall between -1.5 and +1.5, the data indicate normal distribution. George and Mallery (2012) indicated that when the kurtosis value is between -1.0 and +1.0, and in some specific applications, between -2.0 and +2.0, the data demonstrate normal distribution. Hair et al. (2013) also noted that when the skewness value is between -1.0 and +1.0, the data show normal distribution.

After determining that the data exhibited normal distribution, it was decided to use parametric tests. To examine the relationship between self-regulation skills and anxiety levels, Pearson Product-Moment Correlation Coefficient was calculated. Additionally, MANOVA was conducted to investigate whether self-regulation skills and anxiety levels showed significant differences based on gender, age, and parental education status (Büyüköztürk, 2018). Before applying the MANOVA test, the assumptions of MANOVA were checked, and the following steps were carried out: The equality of covariance for self-regulation skills and anxiety levels concerning gender, age, and parental education status was first examined. The covariance equality values were found to be 0.271 for the gender variable, 0.400 for the age variable, and 0.847 for the parental education status variable. Since these values were $p > 0.05$, it was concluded that the covariance values exhibited equal distribution. After assessing covariance equality, variance equality was examined using Levene's test. The variance equality for self-regulation skills and anxiety levels concerning the gender variable was found to be 0.137 and 0.718, respectively. For the age variable, the variance equality of self-regulation skills and anxiety levels was 0.876 and 0.149, respectively. For parental education status, the variance equality for self-regulation skills and anxiety levels was observed to be 0.014 and 0.879, respectively. The values for gender and age variables were $p > 0.05$, indicating equal

distribution of variances. However, while parental education status showed equal distribution for anxiety levels, the $p < 0.05$ for self-regulation skills indicated that they did not exhibit equal variance distribution. Therefore, the results of the MANOVA test were interpreted according to Pillai's Trace statistic (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014). To examine whether there was a significant difference between self-regulation skills and the gender variable, a t-test was conducted. One-Way ANOVA was applied for self-regulation skills concerning age and parental education status. To investigate whether there was a significant difference between anxiety levels and the gender variable, a t-test was also conducted, and One-Way ANOVA was applied for anxiety levels concerning age and parental education variables. In all statistical analyses, a significance level of 0.05 was accepted as the upper limit.**3.**

3. Findings

3.1. The Relationship Between Self-Regulation Skills and Anxiety Levels

Table 3. Pearson Product-Moment Correlation Results Between Self-Regulation Skills and Anxiety Levels in Children Aged 4-6 Years

	Self-Regulation Skills	Anxiety Levels
Self-Regulation Skills	1	-,213**
Anxiety Levels	-,213**	1

N=402, **p < .001

Upon examining Table 3, it is observed that there is a low-level, negative relationship between self-regulation skills and anxiety levels in children aged 4-6 years. According to this finding, as self-regulation skills increase, anxiety levels decrease, or conversely, as anxiety levels increase, self-regulation skills decrease.

3.2. The Relationship Between Self-Regulation Skills and Anxiety Levels in Relation to Gender and Age Variables

Table 4. MANOVA Results for Self-Regulation Skills and Anxiety Levels in Children Aged 4-6 Years Concerning the Gender Variable

		Value	F	Hipotezdf	Hatadf	p	η^2
Gender	Pillai'sTrace	,011	2,211[b]	2,000	399,000	,111	,011
Age	Pillai'sTrace	,019	1,88	4,00	798,00	,111	,009

Upon examining the table, it was concluded that there was no significant difference in the relationship between self-regulation skills and anxiety levels among children aged 4-6 years based on the gender variable ($p > .05$). As a result of these findings, it can be seen that the relationship between self-regulation skills and anxiety levels in children aged 4-6 years is not influenced by the gender variable. According to the MANOVA results concerning the age variable, it was also concluded that there was no significant difference in the relationship between self-regulation skills and anxiety levels in children aged 4-6 years based on the age variable ($V = .019$, $F (4.00) = 1.88$, $p > .05$). Consequently, it can be seen that the relationship between self-regulation skills and anxiety levels in children aged 4-6 years is not influenced by the age variable.

3.3. The Relationship Between Self-Regulation Skills and Anxiety Levels in Relation to Parental Education

Table 5. MANOVA Results for Self-Regulation Skills and Anxiety Levels in Children Aged 4-6 Years Concerning Parental Education Status Variable

		Value	F	Hypothesis df	Hata df	p	η^2
Educational Status	Pillai'sTrace	,008	,528	6,000	796,000	,787	,004

Upon examining the table, it was concluded that there was no significant difference in the relationship between self-regulation skills and anxiety levels among children aged 4-6 years based on the parental education status variable ($V = .008$, $F (6.00) = .52$, $p > .05$). As a result of these findings, it can be seen that the relationship between self-regulation skills and anxiety levels in children aged 4-6 years is not influenced by the parental education variable.

3.4. The Relationship Between Self-Regulation Skills and Gender

Table 6. T-Test Results for Total Scores of Self-Regulation Skills Scale (Mother Form) for Children Aged 4-6 Years by Gender for Independent Samples

	$\bar{x}$	*S.s*	*sd*	*t*	*p*
Girl	82.11	7.84	400	1.52	.128
Boy	80.82	8.86			

The results of the independent samples t-test conducted in Table 6 indicated that there was no significant difference in the total scores of the self-regulation skills scale (mother form) for children aged 4-6 years based on gender ($t(400) = 1.52$, $p > .05$). These findings suggest that the levels of self-regulation skills in both girls and boys are similar.

3.5. The Relationship Between Anxiety Levels and Gender

Table 7. T-Test Results for Total Scores of the Revised Anxiety Scale for Children Aged 4-6 Years by Gender for Independent Samples

	$\bar{x}$	*S.s*	*sd*	*t*	*p*
Girl	66.93	17.35	400	1.08	.279
Boy	65.04	17.48			

The results of the independent samples t-test conducted in Table 7 indicated that there was no significant difference in the total scores of the revised anxiety scale for children aged 4-6 years based on gender ($t(400) = 1.08$, $p > .05$). These findings suggest that the anxiety levels of both girls and boys are similar.

3.6. The Relationship Between Self-Regulation Skills and Age

Table 8. One-Way ANOVA Results for Total Scores of the Self-Regulation Skills Scale (Mother Form) for Children Aged 4-6 Years by Age

	$\bar{x}$	*S.s*	sd_1, sd_2	*F*	*p*
4 yaş	80.31	8.63	2, 399	1.84	.154
5 yaş	82.33	8.18			
6 yaş	81.43	8.44			

The results of the one-way ANOVA conducted in Table 8 indicated that there was no significant difference in the total scores of the self-regulation skills scale for children aged 4-6 years based on age ($F(2, 399) = 1.84$, $p > .05$). These findings suggest that the self-regulation skills of 4, 5, and 6-year-old children are similar.

3.7. The Relationship Between Anxiety Levels and Age

Table 9. One-Way ANOVA Results for Total Scores of the Revised Anxiety Scale for Children Aged 4-6 Years by Age

	$\bar{x}$	*S.s*	sd_1, sd_2	*F*	*p*
4 years	64.37	16.37	2, 399	1.14	.320
5 years	67.59	18.56			
6 years	65.52	17.14			

In the one-way ANOVA conducted in Table 9, it was found that there was no significant difference in the total scores of the revised anxiety scale for children aged 4-6 years by age ($F(2, 399) = 1.14$, $p > .05$). These findings indicate that the anxiety levels of children aged 4, 5, and 6 are similar.

3.8. The Relationship Between Self-Regulation Skills and Parental Education Status

Table 10. One-Way ANOVA Results for Total Scores on the Self-Regulation Skills Scale (Mother Form) by Parental Education Status for Children Aged 4-6

Educational Status	$\bar{x}$	*S.s*	sd_1, sd_2	*F*	*p*
Primary School	81.65	7.98	3, 398	.746	.525
Secondary School	80.23	9.63			
High School	81.96	8.19			
Higher Education	81.59	8.05			

In Table 10, the results of the one-way ANOVA indicate that there is no significant difference in the total scores of the self-regulation skills scale for children aged 4-6 based on parental education status ($F(3, 398) = .746$, $p > .05$). These findings suggest that the self-regulation skills are similar regardless of the parents' educational background.

3.9. Relationship Between Anxiety Levels and Parental Education Status

Table 11. One-way ANOVA Results for Total Scores of the Anxiety Scale, Revised for 4-6 Years of Age, According to Parental Education Status

Educational Status	$\bar{x}$	*S.s*	sd_1, sd_2	*F*	*p*
Primary School	66.29	17.33	3, 398	.206	.892
Secondary School	65.17	17.99			
High School	65.16	17.46			
Higher Education	66.66	17.26			

In Table 11, the results of the one-way ANOVA indicate that there is no significant difference in the total scores of the revised anxiety scale for children aged 4-6 according to parental education status ($F(3, 398) = .206$, $p > .05$). These findings suggest that the anxiety levels are similar across different parental education statuses.

4. Discussion

According to the first hypothesis of the study, a negative low-level significant relationship was found between the self-regulation skills and anxiety levels of children aged 4 to 6 years. This finding suggests that as the self-regulation skills of children in this age group increase, their anxiety levels decrease, or conversely, as anxiety levels rise, their self-regulation skills decline. Based on this outcome, the first hypothesis of the study has been accepted.

Upon reviewing the existing literature, there are studies that have reached similar conclusions to those of this research. It has been found that students with high levels of social anxiety have lower expectations of achieving their goals and that these expectations are significantly negatively correlated with self-regulation skills (Kocovski & Endler, 2000). In the study by Asıcı and Uygur, a significant negative relationship was identified between the level of emotional regulation and the perceived level of stress (Asıcı & Uygur, 2017). Pritchard and Mezo found a negative correlation between self-regulation and optimism with anxiety (Pritchard & Mezo, 2017). Çiçek concluded that there is a positive relationship between self-regulation and motivation, and a negative relationship between self-regulation and anxiety (Çiçek, 2018). Another study indicated that individuals with a positive self-concept experience less chronic anxiety (Hamarta, Deniz, Arslan, & Dilmaç, 2012).

These findings, supported by the results from the literature, indicate a negative relationship between self-regulation—defined as the ability to control emotions, delay behaviors, suppress impulses, and maintain attention—and anxiety, which is characterized as an often undefined state in which an individual feels threatened, worried, and restless towards a situation, person, or object. Individuals with high anxiety levels may react with anger and aggression when faced with any stressful situation or obstacle, and they may struggle with regulating their emotions and behaviors.

The sub-dimensions of self-regulation, namely cognitive regulation and emotional regulation, are interrelated; a change in one affects the other. Therefore, a child who struggles to cope with anxiety, stress, or frustration may also have difficulty regulating their cognitive skills. For instance, a student with exam anxiety may find it challenging to concentrate while preparing for or during the exam, which can impair their comprehension of the material. Similarly, a child with social phobia may struggle to regulate their emotions and behaviors due to an intense preoccupation with thoughts such as, "What do people think of me?" Furthermore, since anxiety disorders are classified as emotional-behavioral disorders, it is expected that children with low self-regulation skills will experience heightened levels of anxiety.

According to the second hypothesis of the study, when examining the findings related to the comparison of the relationship between self-regulation and anxiety among children aged 4-6 in terms of the gender variable, it was concluded that there were no significant differences in the relationship between self-regulation and anxiety based on gender. Therefore, the second hypothesis of the study was not accepted. Similar findings can be found in the literature. In preschool children, the relationship between emotional regulation and anxiety levels has not been found to be significant based on gender (Cohen et al., 1993; Bosquet & Egeland, 2006; Else-Quest et al., 2006; Lavigne, LeBailly, Hopkins, Gouze, & Binns, 2009).

Research that yielded different results from this study has also been found. Seçer, Sarı, Çeliköz, and Üre concluded in their study that male children tend to exhibit more impulsive behaviors compared to female children (Seçer, Sarı, Çeliköz, & Üre, 2009). Male children who are unable to control their impulses may not be aware that not everything can be done immediately and that some desires need to be postponed. However, the better they can control, postpone, or substitute their impulses with other activities, the better they can cope with anxiety.

According to the third hypothesis of the study, when examining the findings related to the comparison of self-regulation and anxiety levels

among children aged 4-6 in terms of the age variable, it was concluded that there were no significant differences between self-regulation and anxiety levels. Therefore, the third hypothesis of the study was not accepted. No studies have been found in the literature that specifically examine the relationship between self-regulation and anxiety in relation to the age variable. However, there are studies that investigate self-control and anxiety, as well as self-control and stress levels according to the age variable. In their study, Lavigne, LeBailly, Hopkins, Gouze, and Binns found no significant relationship between self-control and anxiety in terms of the age variable (Lavigne, LeBailly, Hopkins, Gouze, & Binns, 2009). Similarly, Doron and Sharbani did not find a significant relationship between self-control and stress in relation to age (Doron & Sharbani, 2013). The results in the literature parallel the findings of this study.

When examining the findings related to the fourth hypothesis of the study regarding the comparison of self-regulation and anxiety levels among children aged 4-6 in terms of parental education level, it was concluded that there were no significant differences between self-regulation and anxiety levels. Therefore, the fourth hypothesis of the study was not accepted. It was expected that as parental education levels increase, the quality of the relationship established with their child would develop in a more desirable direction. It was anticipated that parents with higher education levels would establish harmonious, balanced, and understanding relationships with their children, and that the development of self-regulation skills would be facilitated through more conscious interactions. Based on this reasoning, the hypothesis was formulated. However, the elevation of a parent's education level may not necessarily equip them with the skills needed to enhance the quality of their relationship with their child. Moreover, considering the fact that many multifaceted factors influence the establishment of quality relationships, parental education level may not be effective in this regard. In the literature, there are no studies found that specifically investigate the relationship between self-regulation skills and anxiety levels in relation to parental education status. However, studies on self-regulation and anxiety, as well as self-control and stress, have been identified. No significant relationship was found between self-regulation and anxiety concerning parental education level (Padilla-Walker, Coyne, Collier, & Nielson, 2015), nor was a significant relationship found between self-control and stress levels with respect to parental education status (Doron & Sharbani, 2013). The results emerging from these studies are similar to the findings of this research.

According to the fifth hypothesis of the study, which posits that there is a significant difference in self-regulation skills among children aged 4-6 based on gender, it was concluded that self-regulation skills did not show significant differences according to gender. Therefore, the fifth hypothesis of the study was not accepted. In the literature, however, studies indicate that self-regulation skills vary by gender, with girls demonstrating higher levels of self-regulation compared to boys (Kockansha, Murray & Coy, 1997; Ersoy, 2009; Tutkun, Şahin, Işıktekiner, 2017; Çiçek, 2018). The vocabulary of girls aged 4-5 is more developed than that of boys. This advantage in language development enables girls to express themselves better, adapt more easily to their surroundings, and think more quickly. Children with good language development can also better control their impulses. Expected behaviors from boys and girls in society also differ. While girls are expected to express their behaviors and emotions more controlled, negative behaviors are often normalized in boys. For instance, when a boy uses a rude word, adults may laugh it off, whereas the same reaction is not given to a girl. Therefore, it can be stated that girls are better able to regulate their behaviors, emotions, and attention compared to boys.

According to the sixth hypothesis of the study, which posits that there is a significant difference in self-regulation skills among children aged 4-6 based on age, it was concluded that no significant differences were found concerning the age variable. Thus, the sixth hypothesis of the study was also not accepted. A review of the literature shows that self-regulation varies with age (Moses, 2001; Akshoomoff, 2002; Carlson, 2005; Blair & Razza, 2007; Carlson & Wang, 2007; Liew et al., 2008; Taylor, 2011; Eggum et al., 2011; Tanrıbuyurdu, 2012; Tutkun, Şahin, Işıktekiner, 2017). As a child grows older, their experiences gained from the environment increase. In addition to experiences, the improvement in self-regulation skills also occurs with maturation, as maturation is a prerequisite for learning. Continuous progress is expected in self-regulation with the interaction between learning and mental, physical, and emotional maturation.

According to the seventh hypothesis of the study, which posits that there is a significant difference in self-regulation skills among children aged 4-6 based on parental education level, it was concluded that self-regulation skills did not show significant differences according to parental education status. Therefore, the seventh hypothesis of the study was not accepted. In their research, Tutkun, Şahin, and Işıktekiner (2017) found that parental education level did not affect self-regulation. Klenberg (2015) determined that as the educational level of the family increases, the attention dimensions of students also improve. In a study conducted by Bernier, Carlson, and

Whipple (2010), it was concluded that as mothers' educational levels rise, the self-efficacy of self-regulation in children also increases.

Parents with higher education levels are generally more conscious about how to regulate their emotions. Children learn emotional regulation strategies by observing their parents. The educational levels of families can impact their socioeconomic status, and it can be stated that parents with higher education levels tend to work in better professions and have a higher income. Therefore, a child's self-regulation skills may be influenced by the family's socioeconomic status, the professions they engage in, and their income level.

According to the eighth hypothesis of the study, which posits that there is a significant difference in anxiety levels among children aged 4-6 based on gender, it was concluded that anxiety levels did not show significant differences according to the gender variable. Therefore, the eighth hypothesis of the study was not accepted. Cohen et al. (1993), Bosquet and Egeland (2006), and Else-Quest et al. (2006) found no significant difference between anxiety levels and gender during the preschool period; however, Bouldin and Pratt (1998), Muris, Schmidt, and Merckelbach (2000), Essau, Muris, and Mederer (2002), Alisinanoğlu and Ulutaş (2003), Nauta et al. (2004), Wichstrøm et al. (2012), and Paulus et al. (2015) reported that girls exhibited higher anxiety levels than boys in school-aged children, indicating a significant difference based on gender.

Girls tend to experience daily life excitements more intensely and behave more meticulously compared to boys. Their intense emotional experiences and the ability to sustain them for extended periods can explain their higher anxiety levels. Meticulous behavior can be attributed to socially prescribed roles, which also reflect in the types of games children play. Girls are more likely to engage in role-playing and cleaning games. The intensity of cleaning-related games may predispose children to future obsessive-compulsive disorders. From a cultural perspective, boys tend to have more opportunities to express their thoughts freely compared to girls. Therefore, it can be argued that boys may be at a relative advantage concerning familial experiences that could lead to anxiety.

According to the ninth hypothesis of the study, which posits that there is a significant difference in anxiety levels among children aged 4-6 based on age, it was concluded that anxiety levels did not show significant differences according to the age variable. Therefore, the ninth hypothesis of the study was not accepted. In a study by Bora (2019) examining the relationship between the anxiety levels of preschool children and their parents, no

significant results were found between the children's anxiety levels and their ages. This result supports the conclusion of the hypothesis. Küçüködek (2015) found that as children's ages increase, separation anxiety decreases, while Spence et al. (2001) reported that 3-year-old children have higher anxiety levels compared to 4- and 5-year-olds. This may be attributed to the separation anxiety experienced by 3-year-olds who are starting preschool. Güngör (2009) also observed that 6-year-old children had higher anxiety levels compared to 5-year-olds. As children grow older, their awareness increases, and the thought that 6-year-olds will start a new school in a year may cause anxiety.

According to the tenth hypothesis of the study, which posits that there is a significant difference in anxiety levels among children aged 4-6 based on parental education level, it was concluded that anxiety levels did not show significant differences according to parental education status. Therefore, the tenth hypothesis of the study was not accepted. A review of the available literature indicates that as parental education levels increase, children's anxiety levels tend to decrease (Hsu, 2004; Beesdo, Knappe & Pine, 2009; Güngör, 2009; Murray, Creswell & Cooper, 2009; Rapee, Schniering & Hudson, 2011; Bora, 2019). It is expected that as parents' educational levels rise, they will also be more conscious in parenting practices, avoiding attitudes such as judgment, criticism, punishment, or belittlement when their children fail. Parents are anticipated to be knowledgeable about their children's developmental characteristics and to set goals according to those characteristics to foster a sense of achievement in their children. Consequently, these attitudes are expected to help children avoid negative emotions that could lead to anxiety within the family environment.

5. Conclusion and Recommendations

5.1. Results

In the study conducted to determine the relationship between self-regulation skills and anxiety levels in preschool children, the following results were obtained:

When examining the relationship between self-regulation skills and anxiety levels, a negative, low-level significant relationship was found. Accordingly, it can be said that as self-regulation skills increase, anxiety levels decrease, or conversely, as anxiety levels increase, self-regulation skills decline.

When comparing the relationship between self-regulation skills and anxiety levels based on gender, no significant difference was found between

girls and boys. Similarly, when examining the relationship between self-regulation skills and anxiety levels in terms of age, no significant difference was observed.

In terms of parental education status, the comparison of self-regulation skills and anxiety levels revealed no significant differences based on parental education. Additionally, when comparing self-regulation skills based on gender, no significant difference was found between the levels of self-regulation skills of girls and boys.

When examining the findings regarding the comparison of children's self-regulation skills based on age, no significant difference was found. This indicates that the self-regulation skills of 4-, 5-, and 6-year-old children are similar. Similarly, when the findings regarding the comparison of children's self-regulation skills based on parental education status were analyzed, no significant difference was found according to parental education levels.

In terms of anxiety levels, when comparing the findings based on gender, no significant difference was observed between the anxiety levels of girls and boys. Likewise, when the findings regarding the comparison of children's anxiety levels by age were examined, no significant difference was found. This suggests that the anxiety levels of 4-, 5-, and 6-year-old children are also similar. Additionally, when examining the comparison of children's anxiety levels based on parental education status, no significant differences were found.

In conclusion, it can be stated that this study provides concrete and significant information about the relationship between self-regulation skills and anxiety levels in 4- to 6-year-old children.

5.2. Recommendations

Based on the findings from the research, the following recommendations can be made to assist future studies by experts in the field and practitioners:

1. This study utilized a cross-sectional approach within quantitative research methodologies. Conducting longitudinal studies could provide more detailed and long-term insights regarding the problem. Additionally, employing qualitative research methods would enhance the understanding of the topic. Qualitative studies can yield non-verbal data and allow participants to express their experiences in their own words, making their situations clearer and more comprehensible.
2. Other variables that may influence the relationship between self-regulation skills and anxiety levels in children aged 4-6 can also be

examined. For instance, variables such as self-esteem, play behaviors, stress levels, optimism, and attachment styles could be investigated for their impact on the relationship between self-regulation skills and anxiety levels.

3. This research found a relationship between self-regulation skills and anxiety levels in children aged 4-6. Future studies could focus on developing and implementing educational programs aimed at enhancing self-regulation skills and reducing anxiety levels.
4. In preschool education, there should be greater emphasis on practices that support the development of self-regulation skills, enabling children to manage their own learning processes.
5. Classroom practices should be chosen to enhance self-regulation, enabling children to manage their thoughts, emotions, and behaviors through increased self-awareness.
6. Preschool educational environments should be equipped with materials that support the development of self-regulation skills.
7. Self-regulation skills should be supported in both school and home environments. To achieve this, parents should be educated through home visits and seminars, teaching them activities that can support their children in the home setting.

6. References

Akbaş, A. (2007). Kişilik, Sosyal, Duygusal ve Ahlak Gelişimi. K. Ersanlı, & E. Uzman (Dü) içinde, *Eğitim Psikolojisi* (s. 106). İstanbul: Lisans Yayıncılık.

Akshoomoff, N. (2002). Selective attention and active engagement in young children. *Developmental Neuropsychology, 22*(3), 625-642.

Alisinanoğlu, F., & Ulutaş, İ. (2003). Çocukların Kaygı Düzeyleri île Annelerinin Kaygı Düzeyleri Arasındaki İlişkinin İncelenmesi. *Eğilim ve Bilim*, 65-71.

Asıcı, E., & Uygur, S. S. (2017). Duygusal Öz-Yeterlik ve Affetmenin Algılanan Stres Düzeyini Yordayıcı Rolü. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 6*(3).

Bandura, A. (1997). *Self-efficacy: The Exercise of Control.* New York: Freeman.

Bauer, I. M., & Baumeister, R. F. (2011). Self-Regulatory Strength. K. Vohs, & R. Baumeister içinde, *Handbook of Self-Regulation: Research, Theory, and Applications* (s. 64-82). New York: The Guilford.

Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and anxiety disorders in children and adolescents: developmental issues and implications for DSM-V. *Psychiatric Clinics, 32*(3), 483-524.

Berk, L. E. (2015). Tarih, Teori ve Araştırma Stratejileri. L. E. Berk içinde, *Bebekler ve Çocuklar: Doğum Öncesinden Orta Çocukluğa* (N. I. Aydoğan, Çev., Cilt 7, s. 1-49). Ankara: Nobel Akademik Yayıncılık.

Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development, 78*(2), 647-663.

Bodrova, E., & Leong, D. J. (2010). *Zihnin Araçları: Erken Çocukluk Eğitiminde Vygotsky Yaklaşımı.* (G. Haktanır, Çev.) Ankara: Anı Yayıncılık.

Boekaerts, M., Zeidner, M., & Pintrich, P. R. (Dü). (2000). Handbook of Self-Regulation. London, UK: Academic Press.

Bora, A. (2019). Okul öncesi eğitime devam eden çocukların kaygıları ile ebeveynlerinin kaygıları arasındaki ilişkinin incelenmesi. *Yüksek Lisans Tezi*. Burdur: Burdur Mehmet Akif Ersoy Üniversitesi Eğitim Bilimleri Enstitüsü.

Bosquet, M., & Egeland, B. (2006). The development and maintenance of anxiety symptoms from infancy through adolescence in a longitudinal sample. *Development and Psychopathology* , 517–550.

Bouldin, P., & Pratt, C. (1998). Utilizing Parent Report to Investigate Young Children's Fears: A Modification of the Fear Survey Schedule for Children–II: A Research Note. *Journal of Child Psychology and Psychiatry*, 271-277.

Bronson, M. B. (2019). *Erken Çocuklukta Öz-Düzenleme Doğası ve Gelişimi.* (S. Esin, & M. K. Yiğit, Çev.) Ankara: Eğiten Kitap.

Büyüköztürk, Ş. (2018). *Sosyal Bilimler İçin Veri Analizi El Kitabı.* Ankara: Pegem Akademi.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2014). Bilimsel Araştırmanın Temelleri. Ş. Büyüköztürk, E. K. Çakmak, Ö. E. Akgün, Ş. Karadeniz, & F. Demirel içinde, *Bilimsel Araştırma Yöntemleri* (s. 1-36). Ankara: Pegem Akademi.

Carlson, S. M. (2005). Developmentally sensitive measures of executive function in preschool children. *Developmental Neuropsychology, 28*(2), 595-616.

Carlson, S. M., & Wang, T. S. (2007). Inhibitory control and emotion regulation in preschool children. *Cognitive Development*(22), 489–510.

Cebeci, S. T. (2009). Tam Aileye ve Tek Ebeveyne Sahip Ailelerden Gelen 7-12 Yaşları Arasındaki Çocukların Bağlanma Stilleri ve Kaygı Durumları Arasındaki İlişki. İstanbul: Maltepe Üniversitesi.

Cohen, P., Cohen, J., Kasen, S., Velez, C. N., Hartmark, C., & Johnson, J. (1993). An epidemiological study of disorders in late childhood and adolescence—I.Age- and gender-specific prevalence. *Journal of Child Psychology and Psychiatry, 34*, 851–867.

Cüceloğlu, D. (1998). *İnsan ve Davranışı.* İstanbul: Remzi Kitabevi.

Çiçek, T. (2018). Güzel Sanatalar Fakültesi Öğrencilerinin Öz-Düzenleme Becerileri Ve Öğrenmede Güdülenme Düzeylerinin İncelenmesi. *Uluslararası Türk Kültür Coğrafyasında Sosyal Bilimler Dergisi, 3*(1), 26-54.

Dacey, J. S., Mack, M. D., & Fiore, L. B. (2017). Kaygı Nedir? J. S. Dacey, M. D. Mack, & L. B. Fiore içinde, *Çocuklarda Aşırı Kaygı ve Kaygı Azaltma Yöntemleri* (I. Doğangün, Çev., s. 1-27). İstanbul: Türkiye İş Bankası Kültür Yayınları.

Doron, H., & Sharbani, A. (2013). Parental Authority Styles of Parents with Attention Deficit Disorders (ADD). *Open Journal of Social Sciences, 1*(6), 43-49.

Eggum, N. D., Eisenberg, N., Kao, K., Spinrad, T. L., Bolnick, R., Hofer, C., . . . Fabricius, W. V. (2011). Emotion understanding, theory of mind, and prosocial orientation: relations over time in early childhood. *The Journal of Positive Psychology, 6*(1), 4-16.

Else-Quest, N., Hyde, J., Goldsmith, H., & Hulle, C. V. (2006). Gender differences in temperament: a meta-analysis. *Psychol. Bull, 132*, 33–72.

Eren Gümüş, A. (2006). *Sosyal Kaygı İle Başa Çıkma.* Ankara: Nobel Yayın Dağıtım.

Erol, A., & İvrendi, A. (2018). 4-6 Yaş Çocuklarına Yönelik Öz-Düzenleme Becerileri Ölçeğinin Geliştirilmesi (Anne Formu). *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 178195.

Ersoy, E. (2009). Cinsiyet kültürü içerisinde kadın ve erkek kimliği (Malatya örneği). *Fırat Üniversitesi Sosyal Bilimler Dergisi, 19*(2), 209-230.

Ertürk Kara, H. G., Güler Yıldız, T., & Fındık, E. (2018). *Erken Çocukluk Döneminde Öz Düzenleme: İzleme, Değerlendirme ve Destekleme Yöntemleri.* Ankara: Anı Yayıncılık.

Fitzsimons, G. M., & Finkel, E. J. (2011). The Effects of Self-Regulation on Social Relationships. K. D. Vohs, & R. F. Baumeister içinde, *Handbook of Self-Regulation* (s. 409). New York: The Guilford Press.

Foxman, P. (2004). Understanding Anxiety. P. Foxman içinde, *Dancing With Fear: Overcoming Anxiety in a World of Stress and Uncertainty* (s. 9-10). Oxford: The Rowman & Littlefield Publishing Group.

Freud, S. (1933). *New Introductory Lectures On Psycho-analysis.* New York: Norton.

George, D., & Mallery, P. (2012). *SPSS for Windows Step by Step: A Simple Guide and Reference 17.0 Update* (Cilt 10th Edition). Boston: Pearson.

Güler, M. (2016). Yeniden Düzenlenen Okulöncesi Kaygı Ölçeği. Aydın: Adnan Menderes Üniversitesi.

Güngör, H., & Buluş, M. (2016). Ebeveyn Mükemmeliyetçiliğinin 5-6 Yaş Okul Öncesi Dönem Çocuklarının Algılanan Kaygı Düzeyini Öngörmedeki Rolü. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 147-159.

Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate Data Analysis* (Cilt 7. Ed). Edinburgh Gate: Pearson Education.

Hamarta, E., Deniz, M., Arslan, C., & Dilmaç, B. (2012). The relationship between early separation anxiety, attachment styles and adjustment. *The Online Journal of Counselling and Education, 1*(3), 97-106.

Hazar, Ç. M. (2006). Kişilik ve İletişim Tipleri. *Selçuk İletişim Dergisi, 4*(2), 125-140.

Hsu, H. C. (2004). Antecedents and consequences of separation anxiety in first-time mothers: Infant, mother, and social-contextual characteristics. *Infant Behavior and Development, 27*(2), 113-133.

Hudson, J. L., Dodd, H. F., & Bovopoulos, N. (2011). Temperament, Family Environment and Anxiety in Preschool Children. *Journal of Abnormal Child Psychology*, 939–951 .

Kocovski, N. L., & Endler, N. S. (2000). Social Anxiety, Self-Regulation, and Fear of Negative Evaluation. *European Journal of Personality, 14*(4), 343-358.

Kopp, C. B. (1982). Antecedents of Self-Regulation: A Developmental Perspective. *Developmental Psychology* , 199-214.

Köknel, Ö. (2005). *Kaygıdan Mutluluğa Kişilik (17.Basım)*. . İstanbul: Altın Kitaplar Yayınevi.

Küçüködük, C. (2015). 3-5 yaş arasında ve anaokuluna giden çocuk annelerinin ayrılma kaygısı ve bağlanma biçimleri ile çocuğun davranışları ve ayrılma kaygısı arasındaki ilişki: bilişsel esnekliğin aracı rolü (Yayımlanmamış Yüksek Lisans Tezi). Ankara: Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü.

Lavigne, J. V., LeBailly, S. A., Hopkins, J., Gouze, K. R., & Binns, H. J. (2009). The prevalence of ADHD, ODD, depression, and anxiety in a community sample of 4-year-olds. *Journal of Clinical Child & Adolescent Psychology, 38*(3), 315-328.

Le Gall, A. (2012). *Anksiyete ve Kaygı.* (İ. Yerguz, Çev.) Ankara: Dost Kitabevi Yayınları.

Liew, J., McTigue, E. M., Barrois, L., & Hughes, J. N. (2008). Adaptive and effortful control and academic self-efficacy beliefs on achievement: A longitudinal study of 1st through 3rd graders. *Early Childhood Research Quarterly, 23*, 515-526.

Murray, L., Creswell, C., & Cooper, P. J. (2009). The development of anxiety disorders in childhood: an integrative review. *Psychological Medicine, 39*(9), 1413-1423.

Myers, R. G. (2004). *In Search of Quality in Programmes of Early Childhood Care and Education (ECCE).* Washington, D.C.: The World Bank.

Padilla-Walker, L. M., Coyne, S., Collier, K., & Nielson, M. (2015). Longitudinal Relations Between Prosocial Television Content and Adolescents' Prosocial and Aggressive Behavior: The Mediating Role of Empathic Concern and Self-Regulation. *Developmental Psychology , 51*(9), 1317-1328.

Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. I. M. Boekaerts, P. Pintrich, & M. Zeidner (Dü) içinde, *Handbook of Self-Regulation* (s. 451-502). San Diego: CA: Academic.

Posner, M., & Rothbart, M. (2009). Toward A Physical Basis of Attention and Self Regulation. *Physics of Life Reviews*, 103-120.

Pritchard, K. J., & Mezo, P. G. (2017). Excessive Reassurance Seeking, Optimism, and Self-Regulation Predict Anxiety. *Association for Behavioral and Cognitive Therapies Conference.* San Diego: University of Toledo.

Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety disorders during childhood and adolescence: Origins and treatment. *Annual Review of Clinical Psychology, 5*, 311-341.

Sameroff, A. (2008). Conceptual issues in studying the development of self-regulation. S. L. Olson, & A. J. Sameroff (Dü) içinde, *Biopsychosocial Regulatory Processes in Development of Childhood Behavior Problems: Biological, Behavioral, and Social-Ecological Interactions* (s. 1-18). Newyork: Cambridge University Press.

Schunk, D. H., & Zimmerman, B. J. (2001). *Self-regulated learning: From teaching to self-reflective practice.* Guilford Press.

Seçer, Z., Sarı, H., Çeliköz, N., & Üre, Ö. (2009). Okul Öncesi Dönemdeki Çocukların Bilişsel Stillerinin Bazı Değişkenler Açısından İncelenmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* , 408-420.

Serin, N. B., & Öztürk, S. (2007). Anne-Babası Boşanmış 9–13 Yaşlarındaki Çocuklar İle Aynı Yaş Grubundaki Anne-Babası Boşanmamış Çocukların Benlik Saygısı Ve Kaygı Düzeyleri. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 8*(2), 117-128.

Shonkoff, J. P., & Phillips, D. (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development.* Washington, DC: National Academy Press.

Siegler, R. (1989). Mechanisms of Cognitive Development. *Annual Review of Psychology*, 353-379.

Spence, S. H., Rapee, R., McDonald, C., & Ingram, M. (2001). The Structure of Anxiety Symptoms Among Preschoolers. *Behaviour Research and Therapy* , 1293–1316.

Spielberger, C. D. (1966). Theory and Research on Anxiety. C. D. Spielberger içinde, *Anxiety and Behavior* (s. 1-19). New York: Academik Press.

Şahin, S. (2017). Kişilik gelişimi. Bilişsel Gelişim. . N. B. Metin (Dü.) içinde, *Doğum öncesinden ergenliğe çocuk gelişimi içinde* (s. 83-122). Ankara: Pegem Akademi.

Tanrıbuyurdu, E. F. (2012). Okul Öncesi Öz Düzenleme Ölçeği Geçerlik Ve Güvenirlik Çalışması. Ankara: Hacettepe Üniversitesi.

Tutkun, C., Şahin, F. T., & Işıktekiner, S. (2017). Dört- beş yaş çocuklarının öz düzenleme becerilerinin incelenmesi. *Eğitim Bilimlerinde Yenilik ve Nitelik Arayışı*, 460-474. doi:DOI: http://dx.doi.org/10.14527/9786053183563b2.028

Ziv, Y., Benita, M., & Sofri, I. (2017). Self-Regulation in Childhood: A Developmental Perspective. *Handbook of Self Regulation*, 155. (J. L. Matson, Dü.) Cham , Switzerland: Springer Nature .