



# ***The Associations between Sleep Problems, Parental Attitudes, and Behavioral Problems in Preschool Children***

## ***Okul Öncesi Çocuklarda Uyku Sorunları, Ebeveyn Tutumları ve Davranışsal Sorunlar Arasındaki İlişkiler***

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### **Abstract**

**Objective:** This study aims to examine the relationships between preschool children's sleep characteristics, social competence, behavioral problems, and parental attitudes and focus specifically on how preschool children's sleep mediates the relationship between parental attitudes and children's social competence and behavioral problems.

**Materials and Methods:** This study's sample consisted of 142 parents of preschoolers. Data were collected using the "Demographic Information Form", "Children's Sleep Habits Questionnaire", "Social Competence" and Behavior Evaluation Scale-30, and Parenting Attitude Scale.

**Results:** Significant moderate correlations were found between sleep habits, parental attitudes, and children's behavioral-emotional problems. The mediatory role of sleep duration and sleep anxiety of the children between democratic parental attitude and social competence was also significant. The mediators (sleep duration and sleep anxiety) accounted for part of the pathway through which democratic parenting affects social competence.

**Conclusion:** This study emphasizes the pivotal role of parental attitudes in influencing children's sleep-related difficulties and daytime behavioral problems. Effective management of sleep anxiety and sleep duration in children has the potential to enhance their behavioral and emotional outcomes.

**Keywords:** Parental attitudes, behavioral problems, sleep problems, preschool

### **Öz**

**Amaç:** Bu çalışma, okul öncesi çocukların uyku özellikleri, sosyal yeterlilik, davranışsal sorunlar ve ebeveyn tutumları arasındaki ilişkileri incelemeyi amaçlamakta olup, özellikle okul öncesi çocukların uykusunun, ebeveyn tutumları ile çocukların sosyal yeterlilik ve davranışsal sorunları arasındaki ilişkiyi nasıl açıkladığını ele almayı hedeflemektedir.

**Gereç ve Yöntem:** Bu çalışma kesitsel bir çalışmadır. Çalışmanın örneklemini, okul öncesi eğitime devam eden çocukların 142 ebeveyninden oluşmaktadır. Çalışmada "Demografik Bilgi Formu", "Çocukların Uyku Alışkanlıkları Anketi", "Sosyal Yetkinlik ve Davranış Değerlendirme Ölçeği-30" ve "Ebeveyn Tutum Ölçeği" kullanılmıştır.

**Bulgular:** Uyku alışkanlıkları, ebeveyn tutumları ve çocukların davranışsal-duygusal sorunları arasında orta düzeyde anlamlı korelasyonlar bulunmuştur. Çocukların uyku süresi ve uyku kaygısının demokratik ebeveyn tutumu ve sosyal yetkinlik arasındaki aracı rolü anlamlıdır. Araçlar (uyku süresi ve uyku kaygısı) demokratik ebeveynliğin sosyal yetkinlik üzerindeki etkisinin bir kısmını açıklamaktadır.

**Sonuç:** Bu çalışma, ebeveyn tutumlarının çocukların uykuya ilgili zorluklarını ve gündüz davranış sorunları üzerindeki önemli rolünü vurgulamaktadır. Çocuklarda uyku kaygısı ve uyku süresinin etkin yönetimi, çocukların davranışsal ve duygusal sorunlarını iyileştirme potansiyeline sahiptir.

**Anahtar Kelimeler:** Ebeveyn tutumları, davranış sorunları, uyku sorunları, okul öncesi

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## Introduction

Healthy sleep, which requires proper timing, sufficient duration, and regularity without disturbances, is vital. Sleep problems are frequent in early childhood, affecting approximately 15-43% of children.<sup>1-6</sup> Common sleep difficulties caregivers report include bedtime resistance, trouble staying in bed, and overnight awakenings.<sup>7</sup> A noteworthy study noted that the most problematic behavior reported in infancy was overnight waking, which decreased into middle childhood.<sup>8</sup> A study in Trondheim, Norway, found that 19.2% of children born in 2003 or 2004 experienced sleep problems, with primary insomnia being the most prevalent at 16.6%.<sup>9</sup> Sleep problems often co-occur with psychological conditions like depression and anxiety. Research highlights the significant role of sleep in the brain development and cognitive and emotional growth of preschool-aged children.<sup>10,11</sup> Sleep's impact on early life cognitive functions, such as attention, working memory, and emotional regulation, is well documented.<sup>12-15</sup> Better sleep is linked to superior executive functions in young children.<sup>16</sup> Addressing sleep issues early can thus enhance overall cognitive development.

Earlier research shows a significant link between sleep disturbances and children's daytime behavioral issues. Owens-Stively et al.<sup>17</sup> observed that temperament and sleep disturbances are closely related, primarily influenced by the child's age and behavioral issues. Similarly, Komada et al.<sup>18</sup> found a relationship between short sleep durations and increased aggression in 2-3-year-old children, and between impulsive behaviours and irregular bedtimes and attention problems in 4-5-year-old children. Furthermore, a study by Horiuchi et al.<sup>19</sup> showed higher sleep anxiety and daytime sleepiness in Japanese preschoolers with poor mental health than their peers. Regular sleep routines are essential to reduce behavioral problems.

Parenting styles significantly affect children's psychological outcomes. Baumrind<sup>20</sup> and Maccoby and Martin<sup>21</sup> outlined parenting styles that range from authoritative to neglectful, influencing children's behavior and sleep quality. Adverse parenting styles have been linked to poor sleep and increased psychological problems in adolescents.<sup>22</sup> For younger children, parental discipline and mental health conditions, like depression, anxiety, and aggression, predict sleep difficulties.<sup>23,24</sup> Despite the known impacts of biological, psychological, and social factors, few studies specifically examine the link between preschoolers' sleep patterns and parenting styles.<sup>18,25,26</sup> This gap highlights the need for more focused research in this area.

Several studies have examined the socio-cultural dimensions of children's sleep habits and problems using large, diverse samples. For example, Chinese and Italian children are reported to go to bed later and sleep less than their American counterparts.<sup>27,28</sup> A comprehensive cross-cultural internet study involving 29,287 infants and toddlers from 17 countries analyzed factors affecting parental perception of sleep problems.<sup>29</sup> This study found that Asian parents were more likely to report sleep problems in their children compared to parents from Caucasian countries, with

frequent awakenings and long sleep onset latencies being major indicators of severe sleep problems. Specifically, infants and toddlers in Asian countries faced more challenges with sleep initiation and maintenance than those in Caucasian countries. Additionally, differences in sleep patterns and related behavioral issues exist in Asia among preschoolers. In a study comparing Chinese and Japanese preschool children, sleep-related breathing disorders and daytime sleepiness were associated with emotional and behavioural problems in the Chinese group. In contrast, sleep anxiety and night waking were found to be important factors for such problems in the Japanese group.<sup>30</sup> These findings highlight the impact of both broad cultural and narrower subcultural factors on children's sleep and associated behavioral outcomes. In a recent multicenter cross-sectional study in Türkiye, 2,434 mothers completed an online survey revealing that children generally sleep 11.5 hours, go to bed at 10:00 p.m., and wake twice nightly. Notably, 35.8% reported sleep issues in their children, with increased complaints among more educated mothers.<sup>23</sup> Additionally, 11.5% of children bedshared, and 52.9% room shared. Parenting discipline significantly influences healthy sleep behaviors. Consistent bedtime routines and promoting independent sleep are beneficial, while irregular schedules and excessive parental involvement can lead to sleep problems. These often point to broader behavioural difficulties in setting limits.<sup>31,32</sup> Persistent sleep difficulties also point to deeper problems in the parent-child dynamic related to the following.<sup>33</sup> Empirical evidence shows that sleep problems in young children are common, and addressing this is critical for avoiding short and long-term adverse outcomes.<sup>11</sup> Research has shown that both the quantity and quality of sleep are essential for positive behavioral outcomes and that the link between sleep, behavior, and cognition emerges in the preschool years.<sup>34</sup> Key influences on the development of sleep problems include the parent-child relationship and parenting style. However, few studies have investigated how parenting impacts sleep, children's daytime behavior and emotional difficulties. Most existing research focuses on the effects of family psychopathologies and parental anxiety on children's sleep anxiety and the impact of conditions like attention-deficit/hyperactivity disorder on sleep and parental responses.<sup>25,26,35</sup> Notably, there is a gap in the literature regarding how sleep mediate the relationship between children's behavior and parental styles.

### Purpose of the Present Study

This study examines the relationships between preschool children's sleep characteristics, social competence and behavioral problems, and parental attitudes. In particular, this study investigates how preschool children's sleep (including sleep duration and sleep anxiety) mediates the relationship between parental attitudes and children's behavioral problems. The hypothesis was that preschool children's sleep characteristics mediate the relationship between democratic parental attitudes and social competence.

## Materials and Methods

### Participants

This study's sample consisted of 142 parents (119 mothers, 23 fathers) of healthy preschoolers [64 girls, 78 boys; age ranged=3-7 years, mean age=4.97 years, standard deviation (SD)=0.90]. The participants were selected using a convenient sampling technique from three different kinder gardens in Ankara in Türkiye. Parents completed the questionnaires and voluntarily participated in this quantitative survey by signing informed consent forms. Study data were collected through various methods, including online, paper, and in-person interviews, to ensure a comprehensive and representative sample. This multi-method approach facilitated greater accessibility and engagement from participants, enhancing the reliability and validity of the study findings. This study was approved by the Çankaya University Ethical Committee (approval number: 76373453-605.01/00000035142, date:16.04.2019). The data were collected between January 2020 and March 2020.

### Measures

#### The Demographic Information Form

Provided information about children's date of birth, age at which they started kindergarten, gender, sleep habits and medical history. Parents' economic status, occupation, and level of education were collected in a structured form.

#### Children's Sleep Habits Questionnaire (CSHQ)

CSHQ was developed to measure young children's sleep behaviors.<sup>36</sup> The CSHQ is a parent questionnaire comprising 45 items with eight subscales: bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night walking, parasomnias, sleep-disordered breathing, and daytime sleepiness. Higher total scores predict that an individual has a discomposed sleep pattern. The Cronbach alpha's coefficients of the subscales ranged from 0.36 to 0.70. The scale was adapted into Turkish with a Cronbach's alpha coefficient of 0.78.<sup>37</sup>

#### Social Competence and Behavior Evaluation Scale-30 (SCBE-30)

SCBE-30 was developed by La Freniere and Dumas<sup>38</sup> to measure young children's behavioral and emotional adaptations. It has 30 items and three subscales, which are social competence, anger-aggression, and anxiety-withdrawal. Cronbach's alpha coefficient for subscales ranged from 0.85 to 0.92. The Social Competence subscale measures the child's ability to interact effectively with peers and adults, including skills in forming friendships, cooperating, and engaging in positive social behaviors. Anger-aggression subscale assesses the child's tendency towards anger and aggressive behaviors, including outbursts, physical aggression, and confrontational actions. The anxiety-withdrawal subscale evaluates signs of anxiety and social withdrawal, such as excessive worry, shyness, and reluctance to engage in social situations. It has been shown that the Turkish version of SCBE-30 has good internal consistency for

each subscale: social competence 0.88, anger-aggression 0.87, and anxiety-withdrawal 0.84.<sup>39</sup>

#### Parenting Attitude Scale (PAS)

PAS measures parents' attitudes when raising children.<sup>40</sup> The scale consists of four subscales as democratic 0.83, authoritarian 0.76, overprotective 0.75 and permissive 0.74 internal consistencies. Democratic reflects parenting characterized by open communication, mutual respect, and shared decision-making between parents and children, promoting a balanced and cooperative relationship. Authoritarian parenting is marked by high demands and low responsiveness, emphasizing strict rules, high control, and little room for the child's input or independence. Overprotective assesses parenting that involves excessive concern and control over the child's activities and experiences, often restricting the child's autonomy and exploration due to fear of potential harm. Permissive indicates a parenting approach with low demands and high responsiveness, where parents are lenient and indulgent, allowing considerable freedom and few rules or expectations.

## Results

### Statistics

Statistical analyses were performed by SPSS 25.0 [IBM SPSS statistics 25 software (Armonk, NY: IBM Corp.)] and AMOS 23.0 [IBM SPSS AMOS 23.0 software (Armonk, NY: IBM Corp.)]. Continuous variables were expressed as mean  $\pm$  SD and median (minimum-maximum values), and categorical variables were expressed as frequencies and percentages. Data were tested for normality using the Kolmogorov-Smirnov test. The spearman correlation coefficient was used for relations between continuous variables, and mediation analysis was carried out using structural equation modeling. For the significance and effects of the variables in the model, we used standardized regression weights (standardized beta values), standard error values, and critical ratios. P-values  $\leq$ 0.05 was considered statistically significant.

### Sample Characteristics

Sample characteristics are presented in Table 1. Our data relied on the reports of the parents of preschoolers. The sample consisted of 142 healthy parents. The education level and age of the parents are presented in Table 1. At the time of the study enrollment, the mean age of the children was between three and seven years ( $M=4.97$   $SD=0.91$ ).

### Pearson Correlation Coefficients

As shown in Table 2 below, significant moderate correlations were found between parental attitudes and children's behavioral-emotional and sleep problems. Similarly, a group of sleep problems was associated significantly with the children's behavioral-emotional problems.

According to the correlation matrix, there were significant correlation coefficients between overprotective parental attitude and anger aggression ( $r=-0.25$ ,  $p<0.05$ ), social competence ( $r=0.34$ ,  $p<0.05$ ), and night waking ( $r=-$

Table 1. Sample characteristics		
	n	%
<b>Children's gender</b>		
Boy	78	54.9
Girl	64	45.1
<b>Children having daytime sleep</b>		
Yes	43	30.7
No	97	69.3
<b>Children's sleep condition</b>		
Fall asleep on their own	80	56.3
Sleeping alone (no room sharing)	44	31.0
Room sharing with a sibling	44	31.0
Sleep at parents' room	18	12.7
<b>Parent's gender</b>		
Mother	119	83.8
Father	23	16.2
<b>Mother's educational level</b>		
Primary school	1	0.7
Middle school	6	4.2
High school	29	20.4
Associate degree	26	18.3
Undergraduate degree	66	46.5
Postgraduate degree	14	9.9
<b>Father's educational level</b>		
Primary school	5	3.5
Middle school	5	3.5
High school	25	17.7
Associate degree	12	8.5
Undergraduate degree	68	48.2
Postgraduate degree	26	18.4
<b>Mother's occupation</b>		
Housewife	81	58.3
Officer	29	20.9
Employee	8	5.8
Self-employment	4	2.9
Retired	1	0.7
Other	16	11.5
<b>Father's occupation</b>		
Unemployed	3	2.1
Officer	50	35.7
Employee	25	17.9
Self-employed	33	23.6
Retired	3	2.1
Other	26	18.6
<b>Economic status</b>		
Low	9	6.4
Moderate	116	82.3
High	16	11.3

0.34,  $p < 0.05$ ); between authoritarian parental attitude and anger aggression ( $r = 0.31$ ,  $p < 0.05$ ), anxiety-withdraw ( $r = 0.38$ ,  $p < 0.05$ ), and social competence ( $r = -0.36$ ,  $p < 0.05$ ); between democratic parental attitude and anger aggression ( $r = -0.31$ ,  $p < 0.05$ ), anxiety-withdraw ( $r = -0.27$ ,  $p < 0.05$ ), social competence ( $r = 0.43$ ,  $p < 0.05$ ). In addition, daytime sleepiness of the child was positively correlated with anxiety-withdraw ( $r = 0.31$ ,  $p < 0.05$ ), and was negatively correlated with social competence ( $r = -0.28$ ,  $p < 0.05$ ); sleep disordered breathing was positively correlated with anxiety-withdraw ( $r = 0.28$ ,  $p < 0.05$ ); parasomnias were negatively correlated with social competence ( $r = -0.26$ ,  $p < 0.05$ ). Night waking was negatively correlated with both overprotective and permissive parental attitudes respectively ( $r = -0.27$  and  $r = -0.34$ ,  $p < 0.05$ ). Sleep anxiety was positively correlated with anger aggression ( $r = 0.30$ ,  $p < 0.05$ ), anxiety-withdraw ( $r = 0.34$ ,  $p < 0.05$ ), and was negatively correlated with social competence ( $r = -0.33$ ,  $p < 0.05$ ). Sleep duration was positively correlated with anxiety-withdraw ( $r = 0.30$ ,  $p < 0.05$ ), and was negatively correlated with social competence ( $r = -0.23$ ,  $p < 0.05$ ).

#### Mediation Analysis

The mediation models showed that sleep characteristics partially mediated the effects of parental attitudes on children's problematic behavior. Table 3 demonstrates the mediated effect of behavioral sleep problems on children's behavioral difficulties by parenting attitudes. The results indicated that democratic parental scores significantly affected sleep duration, sleep anxiety, and social competence. Sleep anxiety and sleep duration had statistically significant effects on social competence, with sleep anxiety showing a negative impact (Std.  $\beta = -0.308$ ;  $p = 0.0001$ ) and sleep duration demonstrating a negative but less significant effect (Std.  $\beta = -0.192$ ;  $p < 0.05$ ). As shown in Table 3, democratic parenting scores had a significant negative effect on both sleep anxiety (Std.  $\beta = -0.241$ ;  $p < 0.05$ ) and sleep duration (Std.  $\beta = -0.394$ ;  $p = 0.0001$ ). Democratic parenting also showed a significant direct positive effect on social competence (Std.  $\beta = 0.489$ ). When sleep anxiety and sleep duration were included as mediators, the direct impact decreased to Std.  $\beta = 0.391$ , indicating partial mediation. This suggests that sleep anxiety and duration partially explain the relationship between democratic parenting and social competence. Notably, while democratic parenting was associated with reduced sleep duration, the indirect effect of reduced sleep duration on social competence was small and negative (Std.  $\beta = -0.192$ ;  $p = 0.049$ ). These findings underscored the importance of sleep-related factors as partial mediators while maintaining the strong direct effect of democratic parenting on social competence (Figure 1).

Several "goodness-of-fit" statistics were applied to test the proposed models. The model's overall fit was assessed using model-fit metrics, including CMIN/df, CFI, GFI, RMR, SRMR, and RMSEA. For Model 2, all values fell within the acceptable

Table 2. Descriptive statistics and correlations for study variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Anger-aggression	-													
2. Anxiety-withdrawal	0.40**	-												
3. Social competence	-0.46**	-0.43**	-											
4. Permissive	0.05	0.16	-0.09	-										
5. Overprotective	-0.25*	0.00	0.34**	0.15	-									
6. Authoritarian	0.31**	0.38**	-0.36**	0.25*	-0.12	-								
7. Democratic	-0.31**	-0.27*	0.43**	-0.19	0.26*	-0.52**	-							
8. Daytime sleepiness	0.22	0.31**	-0.28*	0.11	0.04	0.23*	-0.23	-						
9. Sleep disordered breathing	0.16	0.28*	-0.15	-0.03	-0.09	0.08	-0.01	0.27*	-					
10. Parasomnias	0.16	0.22	-0.26*	-0.12	-0.12	0.10	-0.16	0.31**	0.54**	-				
11. Night wakings	0.17	0.06	-0.23*	-0.27*	-0.34**	0.08	-0.05	0.31**	0.27**	0.35**	-			
12. Sleep anxiety	0.30**	0.34**	-0.33**	-0.16	-0.19	0.06	-0.10	0.39**	0.20*	0.23**	0.40**	-		
13. Sleep duration	0.11	0.30**	-0.23*	0.18	0.10	0.19	-0.16	0.30*	0.09	0.18*	0.11	0.19*	-	
14. Sleep onset delay	-0.13	-0.18	0.10	-0.02	0.05	-0.18	0.21	-0.35**	-0.14	-0.09	-0.16	-0.17*	-0.32**	-

\*p<0.05, \*\*p<0.01

range, indicating a satisfactory fit: CMIN/df =1.41, GFI=0.999, CFI=1.000, RMR=0.107, SRMR=0.0139, and RMSEA=0.0001.

## Discussion

Our study revealed a negative correlation between social competence skills and anger-aggression and anxiety-withdrawal levels in early childhood. This result is consistent with previous studies.<sup>41,42</sup> Increased social competence, which governs the use of social skills required in social environments in early childhood, is crucial in reducing internalizing (e.g., anxiety and depression) and externalizing (e.g., hyperactivity and aggression) behaviors.

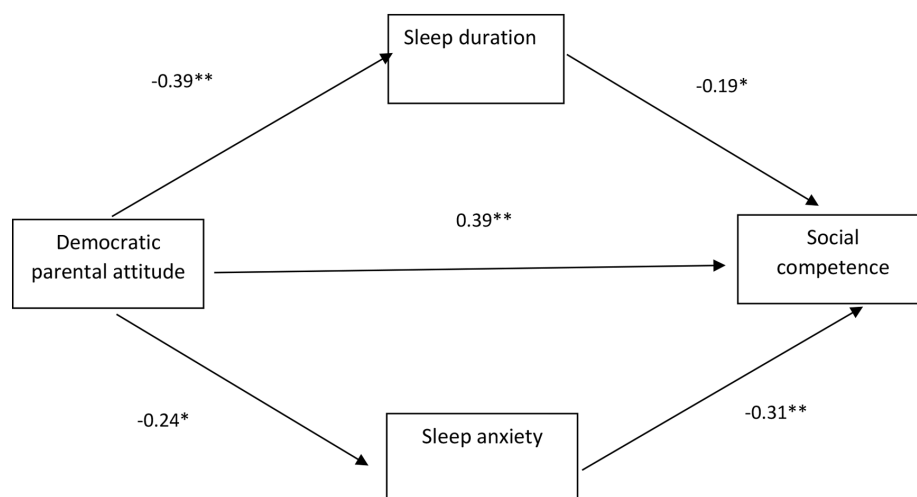
This study found that democratic parenting is positively correlated with children's social competence and negatively correlated with their anger, aggression, and anxiety withdrawal. In contrast, authoritarian parenting shows the opposite effects. Extensive research, including a meta-analysis of 1,400 studies, indicates that authoritarian parenting, characterized by rigid discipline, is linked to increased externalizing behaviors like aggressiveness and hyperactivity.<sup>34,43,44</sup> Conversely, as democratic parenting increases, children's social competence improves, and internalizing and externalizing behaviors decrease.<sup>45,46</sup> Additionally, overprotective parenting styles negatively correlated with children's anger, aggression, and night awakenings while positively influencing social competence. This finding is inconsistent with Zaidman-Zait and Hall's<sup>47</sup> study findings, which found that overprotectiveness was linked to waking after sleep onset in young children, suggesting that cultural differences may account for these divergent findings.<sup>48</sup> The present study found that sleep anxiety is positively correlated with anger-aggression and anxiety-withdrawal behaviors in children and negatively associated with social competence. Daytime sleepiness and sleep-disordered breathing are also positively linked to anxiety-withdrawal symptoms, while parasomnias negatively impact social competence. Consistent with these findings, a recent study indicated that sleep-disordered breathing and daytime sleepiness in Chinese children were associated with emotion regulation difficulties and behavioral disinhibition.<sup>30</sup> The scientific consensus underscores sleep as vital for child development and crucial for physical and mental health. However, the high prevalence of sleep inadequacy and disorders worldwide poses a significant public health concern.<sup>2</sup> Comparative studies reveal that short sleep durations in 2-to 3-years old are linked to increased aggression, and irregular bedtimes at ages 4 and 5 correlate with heightened aggression and inattention.<sup>18</sup> Cross-sectional research suggests that poor sleep quality and disturbances can elevate behavioral problems in adolescents, and a systematic review highlights that early childhood sleep disorders are significant predictors of developing anxiety, depression, and ADHD later in adolescence.<sup>48,49</sup>

Moreover, our study found that sleep duration and sleep anxiety mediated the effects of democratic parenting on social competence, indicating that parenting styles significantly influence children's anxiety and social skills through mechanisms related to sleep. Authoritarian parents enforce strict obedience, often suppressing children's attempts to assert independence, which can impact their emotional and social development.<sup>20,21</sup> Previous studies show mixed findings on the relationship between parenting styles and children's sleep patterns. Owens-Stively et al.<sup>17</sup> found

**Table 3. The investigation of the potential mediating role of sleep duration and sleep anxiety of the children between democratic parental attitude and social competence.**

Model 1			Std. Beta	S.E.	C.R.	P
Sleep duration	<---	Democratic parental	-0.394	0.017	-3.949	0.0001*
Sleep anxiety	<---	Democratic parental	-0.241	0.029	-2.294	0.022*
Social competence	<---	Democratic parental	0.391	0.11	3.893	0.0001*
Social competence	<---	Sleep duration	-0.192	0.633	-1.965	0.049*
Social competence	<---	Sleep anxiety	-0.308	0.367	-3.333	0.0001*

p<0.05 Statistically significant, Std.Beta: Standardized beta coefficient, S.E: Standard error; C.R: Critical ratio



**Figure 1.** Mediatory role of sleep duration and sleep anxiety of the children between democratic parental attitude and social competence.

\*p<0.05, \*\*p<0.001 statistically significant

no correlation between ineffective parental discipline and behavioral sleep problems, and Tyler et al.<sup>26</sup> reported that neither authoritarian nor authoritative parenting styles significantly affected sleep problems. These varying results might be attributed to cultural differences and definitions of authoritarian or ineffective parenting.<sup>50</sup> However, our research indicates that sleep duration and anxiety mediate the relationship between democratic parenting and children's social competence positively. Democratic parenting, which involves warmth, care, and a consultative approach to family decisions, enhances children's sleep duration and reduces sleep anxiety, thereby boosting their social competence. According to Baumrind,<sup>20</sup> democratic parents encourage mature behavior, requiring rule adherence when necessary while maintaining a supportive and empathetic relationship with their children. Another finding, which seems paradoxical, shows an inverse relationship between democratic parenting and sleep duration. In our sample, as sleep duration increased, anxiety-withdraw symptoms also increased. Increased sleep duration in some children may arise from parental overprotective attitudes. Oversleeping can sometimes be associated with overprotection and limited social interaction,

harming children's social competence. Excessive sleep can inhibit the development of social skills by affecting the child's physical activity levels and emotional state. On the other hand, democratic parenting appears to affect children's sleep quality positively. This positive effect reflects increased social and behavioral skills needed for successful social adaptation. In a study, researchers examined associations between adolescents' sleep duration, difficulties initiating and maintaining sleep, and three parenting types: parental involvement, parent-child conflict, and parental control. According to the regression analyses, parental control and parent-child conflict predicted adolescent sleep functioning.<sup>51</sup> In another study, variables such as low parental endurance, maladaptive beliefs regarding sleep, and parental interaction during bedtime significantly predicted child sleep problems.<sup>52</sup> In more democratic families, this conflict may be less, closeness may be high, and rules may be explained clearly, increasing sleep quality in this population.

Kohyama argues that sleep acts as "a window on the developing brain"<sup>53</sup>, influencing children's emotional, cognitive, and behavioral development.<sup>54-56</sup> Frequent night awakenings and short sleep durations are associated with behavioral problems and

learning difficulties. Longitudinal studies show that poor sleep in early years can delay cognitive and language development.<sup>57-58</sup> Kocevskaja et al.<sup>59</sup> further link atypical sleep durations at age 2 to cognitive delays over 4 years, and sleep problems from ages 2 to 6 correlate with reduced brain development. Recent studies also connect poor sleep with emotional problems and adverse mental health outcomes in preschoolers.<sup>60,19</sup> Addressing these early sleep abnormalities is crucial for preventing long-term developmental impacts, emphasizing the need for early detection and intervention in clinical settings.

## Conclusion

Research regarding the influence of parenting styles on children's sleep and subsequent behavior is limited. Authoritarian parenting is linked to higher insomnia symptoms, while flexible and warm discipline is associated with fewer symptoms. Understanding these dynamics can help tailor clinical interventions and assist parents in managing sleep difficulties during critical preschool years. This study's cross-sectional nature limits long-term conclusions. While associations between democratic parenting, sleep duration, sleep anxiety, and social competence can be observed, it is not possible to ascertain the directionality of the relationship. For example, it could be that children with higher social competence have better sleep hygiene, or sleep anxiety may cause changes in parenting style rather than democratic parenting, leading to reduced sleep anxiety or improved social competence. Further research should assess the effects of parental attitudes longitudinally in a larger sample using more objective sleep measures, such as actigraphy, considering the potential biases of parent-reported data collected using online and paper questionnaires.

## Ethics

**Ethics Committee Approval:** This study was approved by the Çankaya University Ethical Committee (approval number: 76373453-605.01/00000035142 date:16.04.2019).

**Informed Consent:** The parents voluntarily participated in this quantitative survey by signing informed consent forms.

## Footnotes

### Authorship Contributions

Concept: N.Y.T., Design: N.Y.T., S.S., H.N.K., Data Collection or Processing: S.S., H.N.K., Analysis or Interpretation: N.Y.T., K.M.K., Literature Search: N.Y.T., S.S., H.N.K., K.M.K., Writing: N.Y.T., S.S., H.N.K., K.M.K.

**Conflict of Interest:** No conflict of interest was declared by the authors.

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