

Evaluation of Depressive Symptoms in Children Aged 3-6 Years: A Parent-Report Study

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Abstract

BACKGROUND/AIMS: This study aimed to evaluate parent-reported depressive symptoms in children aged 3-6 years and to examine the relationship between these symptoms and the socio-demographic characteristics of the children and their parents.

MATERIALS AND METHODS: A descriptive cross-sectional study was conducted from January to March 2025 and included 236 parents who were recruited by simple random sampling. Data were collected using a socio-demographic information form and the child depressive symptom scale. The results were summarized as counts, percentages, means, and standard deviations, and comparisons were made using Independent Samples t-tests, one-way analysis of variance, Kruskal-Wallis, and Mann-Whitney U tests.

RESULTS: Depressive symptom levels varied significantly among children, differing by age, sex, and child health-related factors, such as allergic or chronic diseases. In addition, family-related factors, particularly parental chronic illness, were associated with higher levels of depressive symptoms ($p < 0.05$).

CONCLUSION: Children's depressive symptom levels differ according to certain child and family characteristics. The findings suggest that, when assessing the psychosocial well-being of young children, family-related characteristics, in addition to child-related factors, may also be taken into consideration. Further studies with larger sample sizes, longitudinal designs, and intervention-based approaches are needed to evaluate the potential benefits of psychoeducation and support programs for parents.

Keywords: Parents, child, preschool, depression, symptoms

INTRODUCTION

Raising children is one of the primary responsibilities of adults across all cultures. Parents are among the primary factors in children's social and emotional development and can adopt authoritarian, permissive, or democratic approaches during this process. These parenting styles may have positive or negative impacts on children's personalities, mental constructs, and emotional states.¹ Many children today do not receive adequate attention because of nuclear family structures, double-income households, and other problems. This decreased attention can affect children's mental health. Anxiety and depressive symptoms may be more common in children.²

It is increasingly reported, both globally and nationally, that mental illnesses have an earlier onset than previously believed.^{3,4} The 2022 mental health report published by the World Health Organization (WHO) indicates that depression in preschool-aged children remains insufficiently researched⁴, whereas research focusing on depression and anxiety in school-age children and adolescents has reported an estimated prevalence of 4-5%.³ Although significant progress has been made in recent years toward understanding depression in school-aged children and adolescents, research into the prevalence of depression in children under 6 years of age has historically been scarce, and the field remains nascent.⁵ The existing data on this topic are also highly

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variable. A meta-analysis reported that the prevalence of depression among children and adolescents ranged from 1% to 58%.⁶ This broad range may be attributed to measurement tools, sample characteristics, and cultural differences.

Studies focusing on the preschool period report that the prevalence of depression typically ranges from 0.5% to 2%, with some community-based studies indicating rates as high as 2-5%.^{7,8} Although these rates appear lower than those observed during adolescence, early-onset depression remains a clinically significant issue because it carries a risk of persistence.⁶

Recent studies indicate that depression is more prevalent among girls than boys.^{9,10} Furthermore, low and middle socio-economic statuses are identified as significant risk factors. Because a large proportion of children and adolescents worldwide reside in low- and middle-income countries, a substantial number of children and adolescents may be affected by depression. Exposure to adverse living conditions, such as parental migration, violence, conflict, and poverty, has also been reported to increase the risk of depression. Additionally, the COVID-19 pandemic has reportedly exacerbated these existing challenges, leading to increased levels of depression in children and adolescents.^{11,12} Finally, a substantial body of research demonstrates that depressive symptoms emerging during the preschool period serve as a strong risk indicators for other psychopathologies that may develop later in life. Therefore, it is essential to recognize and monitor early-onset depressive symptoms and plan appropriate interventions.^{12,13}

Depression can develop in preschool-age children due to early adverse environments and ongoing, acute, and chronic stressors. Depression in children is associated with symptoms such as aggression, separation anxiety, impulsivity, hyperactivity, social adjustment difficulties, and impaired cognition.¹⁴ A review of the literature indicates that both international and national studies report associations between depressive symptoms in preschool children and a range of mental disorders and symptoms, including sleep problems, irritability, separation anxiety, childhood traumas, anxiety disorders, behavioral disorders, hyperactivity disorder, aggression, cognitive impairment, excessive guilt, sadness, motor inhibition, and attention deficit.^{15,16}

Due to the limited capacity of preschool children to verbally express their emotions, depressive symptoms are predominantly observed through behavioral, emotional, and physical changes. The literature indicates that, although clinical experts typically employ diagnostic scales to assess depressive symptoms in this age group, parents, teachers, and caregivers also provide crucial information.^{12,16,17} Alongside traditional assessment methodologies, emerging digital approaches, including machine learning-based analysis of children's speech, have shown promise in detecting anxiety and depressive symptoms during early childhood.¹⁸ Although professional expertise is required for clinical assessment, parents are recognized as the primary source of information during early childhood, as they observe the child's daily behavior over extended periods and in the most natural environments.¹⁹

Among the depressive symptoms most frequently reported by families are persistent sadness or dysphoria in the child, frequent crying, and diminished interest in play and activities they previously enjoyed. Other notable behavioral changes include social withdrawal, a preference for isolation, excessive irritability, and outbursts of anger.²⁰ While some children may become excessively dependent on their parents,

others may avoid social interactions. Changes in sleep and appetite patterns, and somatic symptoms such as unexplained headaches or abdominal pain, are also significant indicators of depression.²¹ In their study examining parent-reported data, Wakschlag et al.²² emphasized that while the low-frequency occurrence of certain behaviors may be considered developmentally normal, an increase in the frequency and severity of these behaviors can serve as a risk indicator for psychopathology. Conversely, certain behaviors that occur infrequently but with high intensity (e.g., expressions of profound sadness severe enough to interfere with a child's eating) should be directly evaluated as indicators of clinical risk.²²

Consequently, early recognition of these symptoms by families is critical to the child's mental health. Early awareness facilitates the timely initiation of appropriate psychosocial interventions and can prevent progression. By mitigating the risk of chronicity, early intervention can also avert subsequent psychiatric issues that the child may encounter later in life.^{12,20} Furthermore, given the potential for depression to adversely affect the child's social, emotional, and cognitive development, early diagnosis is important for preventing developmental deficits. Therefore, rather than dismissing these symptoms as "normal," "spoiled behavior," or "a passing phase," families should seek professional support to promote healthy development. Furthermore, a 2024 joint report by the WHO and the United Nations Children's Fund draws attention to the rising incidence of mental health issues, such as depression, among children and underscores the critical need for early support and intervention.²³

Although depression is less frequently observed during the preschool period, it must be addressed as a significant mental health issue, necessitating early detection and appropriate intervention.^{6,23} The present study, using parent-reported data, was conducted to identify depressive symptoms and determine associated risk factors in children aged 3 to 6 years.

Research Questions:

- Are depressive symptoms present in children aged 3-6 years according to parent report?
- Is there a difference in parent-reported depressive symptoms in children aged 3-6 years according to children's socio-demographic characteristics (age, sex, academic performance, allergic disease, chronic disease/medication use)?
- Is there a difference in parent-reported depressive symptoms in children aged 3-6 years according to parents' socio-demographic characteristics (age, sex, marital status, education level, income level, chronic disease, history of depression or other mental disorder)?

MATERIALS AND METHODS

Study Design and Setting

This descriptive study was conducted from January to March 2025 in the central district of Ağrı Province, Türkiye. Eighteen neighborhoods in the central district of Ağrı Province were initially divided into three strata according to socio-economic status. Among the six neighborhoods with the highest socio-economic status, one was selected by lottery. The study population comprised the parents of 518 children aged 3-6 years who attended three preschools in this neighborhood. The schools' names

and student rosters were obtained with permission from the provincial Directorate of National Education. The study sample consisted of parents of students from the three target preschools; the parents were selected by simple random sampling (lottery method).

Sample size was calculated for a known population using the formula $n = (N \cdot t^2 \cdot p \cdot q) / (d^2 \cdot (N - 1) + (t^2 \cdot p \cdot q))$.²⁴ The minimum sample size was determined to be 221 participants. The study included 236 parents who agreed to participate and completed the data collection forms. The study included Turkish-speaking parents aged 18 years or older who had a child between 3 and 6 years of age and had no sensory impairments that would hinder communication.

Data Collection Forms

The study data were collected using a socio-demographic information form and the child depressive symptom scale (CDSS).

Socio-Demographic Information Form

This form was developed by the researchers based on a review of the relevant literature.^{25,26} It included 14 questions about the socio-demographic characteristics of the participating parent (age, gender, marital status, education level, subjective income level, presence of chronic disease, history of depression, history of psychiatric illness) and their child (age, sex, school attended, performance at school, presence of allergic disease, presence of chronic disease, and regular medication use).

Child Depressive Symptom Scale

The CDSS, which was developed by Erol et al.²⁷ in 2020 as a broad measure of childhood problems, consists of 56 items in 8 subscales: social adaptation (items 16, 18, 19, 21, 22, 23, 31, 45, 50, and 54), impulsivity (items 9, 10, 28, 30, 44, and 51), separation anxiety (items 1, 5, 15, 17, 37, and 38), impaired cognitive functioning (items 2, 3, 6, 7, 11, 12, 32, 34, 36, 48, and 53), somatization (items 4, 8, 13, 26, and 39), fantasy-reality confusion (items 14, 20, 27, 29, 33, 46, 49, and 52), archaic anxiety (items 40, 43, and 47), and aggression/destructiveness (items 24, 25, 35, 41, 42, 55, and 56). Parents complete the CDSS. Items are scored on a 5-point Likert-type scale from 1 (never) to 5 (always); the social adaptation subscale is reverse-scored. Scale results can be evaluated according to the total score (possible range: 56-280) and the subscale scores. Higher scores indicate a greater tendency toward depression in children.

The Cronbach's alpha coefficients for the scale were reported as follows: 0.95 for the total scale; 0.85 for the social adaptation subscale; 0.82 for impulsivity; 0.79 for separation anxiety; 0.91 for impaired cognitive functioning; 0.75 for somatization; 0.84 for fantasy-reality confusion; 0.71 for archaic anxiety; and 0.90 for aggression/destructiveness.²⁷ In the present study, the Cronbach's alpha coefficients were calculated as follows: 0.88 for the total scale; 0.71 for social adaptation; 0.64 for impulsivity; 0.78 for separation anxiety; 0.54 for impaired cognitive functioning; 0.75 for somatization; 0.52 for fantasy-reality confusion; 0.82 for archaic anxiety; and 0.83 for aggression/destructiveness. The relatively low internal consistency observed for the impaired cognitive functioning and fantasy-reality confusion subscales may be attributed to several factors. These constructs may not yet be fully manifest during the preschool period, and parents have limited insight into their children's internal cognitive processes. Furthermore, variance may be low because these specific symptoms are infrequent in the sample.

Data Collection

Preliminary meetings were held with parents to provide information about the study. These meetings took place in a room designated by the school administration during the students' morning drop-off or afternoon pick-up times. Following these briefings, verbal and written informed consent was obtained from the participating parents. Data were then collected by one of two methods, depending on participant preference. Parents could complete the questionnaires either immediately in the meeting room (average completion time 25 to 30 minutes) or later at home. Parents who preferred completing the forms at home were provided with instructions and the forms, which they returned during the same week.

Ethical Considerations

All procedures involving human participants in this study were conducted in accordance with the ethical standards of the institutional research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. Approved the study protocol Ağrı İbrahim Çeçen University Scientific Research Ethics Committee (approval number: 406, date: 28.11.2024), and written permission was obtained from the institution where the research was conducted (date: 12.12.2024, application no: MEB. TT.2024.011071). Permission to use the CDSS was also obtained from the creator of the scale. All participants provided written informed consent.

Statistical Analysis

Statistical analyses were performed using IBM SPSS Statistics for Windows, version 22.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were presented as frequencies, percentages, means, standard deviations (SDs), and ranges. The normality of data distributions was assessed using skewness-kurtosis values and histograms. Continuous variables showing a normal distribution were analyzed using parametric tests (Independent Samples t-tests for comparisons of two groups; one-way analysis of variance (ANOVA) for comparisons of three or more groups). Variables that did not meet the assumption of normality were analyzed using non-parametric tests (Mann-Whitney U test or Kruskal-Wallis test). Among the main outcome measures, the CDSS total score and the social adaptation, impulsivity, separation anxiety, impaired cognitive functioning, somatization, fantasy-reality confusion, and archaic anxiety subscale scores were normally distributed, while aggression/destructiveness scores were not normally distributed. $p < 0.05$ was used as the threshold for statistical significance. Effect sizes were also determined to demonstrate the clinical relevance of statistically significant results. Effect sizes were calculated: Cohen's d for Independent Samples t-tests, eta squared (η^2) for one-way ANOVA, and r for non-parametric tests (Mann-Whitney U and Kruskal-Wallis). In addition, Cronbach's alpha values were examined to assess the reliability of the scale.

RESULTS

The socio-demographic characteristics of the participating parents and their children are shown in Table 1. The mean age of the parents in the study was 33.50 (SD =4.88) years. Among the participants, 73.3% were mothers, 85.2% were married, 67.4% had university-level or higher education, and 63.6% reported a high subjective income level (income covering expenses). Most parents had no chronic disease (77.5%), no family history of depression (93.2%), and no family history of psychiatric

illness (95.8%). Among their children, 63.1% were girls and 34.7% were 5 years old. Most children had neither allergic disease (90.3%) nor chronic illness/regular medication use (97%) (Table 1).

The mean total and subscale scores reported by parents on the CDSS are shown in Table 2. The mean total score of the study participants was 123.69 (SD =19.67). Their mean subscale scores were 37.35 (SD =9.10)

on the social adaptation subscale, 14.46 (SD =4.63) on the impulsivity subscale, 13.09 (SD =4.17) on the separation anxiety subscale, 18.80 (SD =5.98) on the impaired cognitive functioning subscale, 8.54 (SD =2.97) on the somatization subscale, 13.75 (SD =5.00) on the fantasy-reality confusion subscale, 6.51 (SD =2.81) on the archaic anxiety subscale, and 11.18 (SD =4.97) on the aggression/destructiveness subscale (Table 2).

Table 1. Socio-demographic characteristics of the participating parents and their children (n=236)

			Mean (SD)	Range
Age (years)			33.50 (4.88)	24-49
			n	%
Parental socio-demographic characteristics	Gender	Mother	173	73.3
		Father	63	26.7
	Marital status	Married	201	85.2
		Single	35	14.8
	Education level	Elementary/middle school	35	14.8
		High school	42	17.8
		University or higher	159	67.4
	Subjective monthly income	Income covers expenses	150	63.6
		Income partially covers expenses	50	21.2
		Income inadequate compared to expenses	36	15.3
	Chronic disease		53	22.5
Family history of depression		16	6.8	
Family history of psychiatric Ill ness		10	4.2	
Child socio-demographic characteristics	Age (years)	3	36	15.3
		4	57	24.2
		5	82	34.7
		6	61	25.8
	Sex	Female	149	63.1
		Male	87	36.9
	Academic performance	Good	108	45.8
		Fair	112	47.5
		Poor	16	6.7
	Allergic disease		23	9.7
Chronic disease and regular medication use		7	3.0	
n: Number, SD: Standard deviation.				

n: Number, SD: Standard deviation.

Table 2. Parents' mean total and subscale scores on the CDSS

CDSS				
Subscale	Number of items	Possible range	Observed range	Mean (SD)
Social adaptation	10	10-50	10-50	37.35 (9.10)
Impulsivity	6	6-30	6-30	14.46 (4.63)
Separation anxiety	6	6-30	6-28	13.09 (4.17)
Impaired cognitive functioning	11	11-55	11-42	18.80 (5.98)
Somatization	5	5-25	5-18	8.54 (2.97)
Fantasy-reality confusion	8	8-40	8-33	13.75 (5.00)
Archaic anxiety	3	3-15	3-15	6.51 (2.81)
Aggression/destructiveness	7	7-35	7-32	11.18 (4.97)
Total	56	56-280	56-191	123.69 (19.67)

CDSS: Child depressive symptom scale, SD: Standard deviation.

Comparisons of mean CDSS total scores according to the parents' socio-demographic characteristics are shown in Table 3. Parents with chronic disease had higher mean scores than those without chronic disease ($p<0.05$). The magnitude of this difference was moderate (Cohen's $d=0.59$), indicating a clinically meaningful association. However, there were no statistically significant differences in mean CDSS total scores by gender, marital status, education level, subjective income level, or family history of depression and psychiatric illness ($p>0.05$) (Table 3).

In Table 4, mean CDSS total scores are compared across the socio-demographic characteristics of the participants' children. Mean scores were higher for children with poor school performance compared to those with fair or good performance ($p<0.05$; $\eta^2=0.03$) and for children with allergic or other chronic diseases who used regular medication compared to those without such conditions or medication use ($p<0.05$; $r=0.14$). There were no statistically significant differences with respect to the children's age, sex, or school attended ($p>0.05$) (Table 4).

Comparisons of CDSS subscale scores according to the parents' socio-demographic characteristics are shown in Table 5. Somatization subscale scores were higher in mothers than in fathers ($p=0.05$). Parental chronic disease was associated with significantly higher subscale scores for separation anxiety ($d=0.37$), impaired cognitive functioning ($d=0.55$),

somatization ($d=0.52$), fantasy-reality confusion ($d=0.65$), archaic anxiety ($d=0.32$), and aggression/destructiveness ($d=0.70$) ($p<0.05$) (Table 5).

Comparisons of CDSS subscale scores by children's socio-demographic characteristics are presented in Table 6. When compared across ages, fantasy-reality Confusion ($\eta^2=0.04$) subscale scores were higher in 5-year-olds than in 3-, 4-, or 6-year-olds, whereas aggression/destructiveness ($r=0.19$) subscale scores were higher in 6-year-olds than in children of other ages ($p<0.05$). In sex-based comparisons, impulsivity ($d=0.44$) subscale scores were higher for boys than for girls, while archaic anxiety ($d=0.27$) subscale scores were higher for girls than for boys ($p<0.05$) (Table 6).

Poor academic performance, as reported by the parents, was associated with higher Impulsivity ($\eta^2=0.04$), separation anxiety ($\eta^2=0.05$), impaired cognitive functioning ($\eta^2=0.04$), and archaic anxiety ($\eta^2=0.04$) subscale scores than those for fair and good academic performance ($p<0.05$) (Table 6).

Separation anxiety and somatization subscale scores were higher in children with allergic disease ($p<0.05$; $r=0.13$ and $r=0.22$, respectively) and in those with any other chronic disease or regular medication use ($p<0.05$; $r=0.17$ and $r=0.15$, respectively) compared to children without these conditions. In contrast, aggression/destructiveness subscale scores were higher in children without allergic disease than in those with allergic disease ($p<0.05$; $r=0.15$) (Table 6).

Table 3. Comparison of the mean CDSS scores according to parental socio-demographic characteristics

Socio-demographic characteristics	CDSS	
	Mean (SD)	Test/p-value
Gender		
Mother	123.75 (20.12)	$t=0.076$
Father	123.52 (18.52)	$p=0.939$
Marital status		
Married	124.47 (17.46)	$t=1.039$
Single	119.17 (29.28)	$p=0.305$
Education level		
Elementary-middle school	124.71 (19.90)	$\chi^2=5.194$
High school	123.21 (18.09)	$p=0.268$
University or higher	122.88 (19.87)	
Subjective monthly income		
Income covers expenses	124.37 (18.38)	$F=1.211$
Income partially covers expenses	124.98 (20.23)	$p=0.300$
Income inadequate compared to expenses	119.03 (23.67)	
Chronic disease		
Yes	132.43 (14.62)	$t=3.779$
No	121.15 (20.24)	$p<0.001^*$ $d=0.59$
Family history of depression		
No	123.42 (19.45)	$U=1663.0$
Yes	127.38 (22.86)	$p=0.713$
Family history of psychiatric illness		
No	123.54 (19.78)	$U=1043.0$
Yes	127.10 (17.52)	$p=0.680$

* $p<0.05$; CDSS: Child depressive symptom scale, n: Number, U: Mann-Whitney U, F: One-way ANOVA, p: Significance value, t: Independent Samples t-test, χ^2 : Chi-square, d: Cohen's d, ANOVA: Analysis of variance.

Table 4. Comparison of mean CDSS scores according to the socio-demographic characteristics of the participants' children

Socio-demographic characteristics	CDSS	
	Mean (SD)	Test/p-value
Age (years)		
3	121.36 (23.99)	$F=0.563$
4	121.79 (14.84)	$p=0.640$
5	125.04 (19.91)	
6	125.02 (20.70)	
Gender		
Female	123.11 (20.24)	$t=-0.584$
Male	124.67 (18.73)	$p=0.560$
Performance in school		
Good	124.16 (19.83)	$F=3.207$
Fair	122.83 (18.89)	$p=0.024^*$
Poor	143.00 (24.39)	$\eta^2=0.03$
Allergic disease		
No	122.82 (19.16)	$U=1847.500$
Yes	131.70 (22.82)	$p=0.050^*$
Chronic disease and regular medication use		
No	123.03 (19.09)	$U=427.000$
Yes	145.29 (27.42)	$p=0.035^*$ $r=0.14$

* $p<0.05$; CDSS: Child depressive symptom assessment scale, n: Number, U: Mann-Whitney U, F: One-way ANOVA, p: Significance value, t: Independent Samples t-test, η^2 : Eta squared, r: Effect size for non-parametric test, ANOVA: Analysis of variance.

Table 5. Mean CDSS subscale scores according to parental socio-demographic characteristics

Socio-demographic characteristics	Social adaptation mean (SD)	Impulsivity mean (SD)	Separation anxiety mean (SD)	Impaired cognitive functioning mean (SD)	Somatization mean (SD)	Fantasy-reality confusion mean (SD)	Archaic anxiety mean (SD)	Aggression/destructiveness mean (SD)
Gender								
Mother	36.94 (9.044)	14.47 (4.83)	13.15 (4.24)	19.04 (6.07)	8.76 (3.00)	13.77 (4.78)	6.53 (2.82)	11.08 (4.93)
Father	38.46 (9.22)	14.43 (4.07)	12.92 (3.98)	18.16 (5.72)	7.92 (2.80)	13.71 (5.58)	6.46 (2.80)	11.46 (5.11)
Test	t=-1.135	t=0.066	t=0.374	t=0.996	t=1.942	t=0.074	t=0.173	U=5110.500
p-value	p=0.258	p=0.947	p=0.709	p=0.320	p=0.050*	p=0.941	p=0.863	p=0.460
Marital status								
Married	38.07 (8.67)	14.43 (4.41)	13.16 (4.09)	18.79 (5.89)	8.56 (2.94)	13.89 (5.00)	6.40 (2.63)	11.17 (4.74)
Single	33.20 (10.44)	14.63 (5.82)	12.66 (4.65)	18.89 (6.56)	8.40 (3.16)	13.00 (4.93)	7.17 (3.67)	11.23 (6.23)
Test	t=2.971	t=-0.190	t=0.663	t=-0.091	t=0.298	t=0.969	t=-1.196	U=3220.500
p-value	p=0.003	p=0.851	p=0.508	p=0.928	p=0.766	p=0.334	p=0.239	p=0.421
Education level								
Elementary-middle school	34.44 (7.74)	15.37 (4.58)	13.64 (4.64)	20.63 (7.09)	7.86 (2.69)	14.76 (6.02)	6.46 (2.26)	11.55 (4.39)
High school	38.86 (9.04)	14.62 (3.72)	11.71 (3.73)	17.76 (5.23)	9.26 (3.41)	13.95 (4.45)	6.64 (2.27)	10.40 (4.09)
University or higher	37.79 (8.75)	14.17 (4.79)	13.26 (4.16)	18.50 (5.55)	8.34 (2.73)	13.37 (5.07)	6.39 (2.97)	11.06 (4.99)
Test	X ² =7.647	X ² =3.486	X ² =5.699	X ² =6.727	X ² =3.942	X ² =6.127	X ² =4.279	X ² =8.217
p-value	p=0.105	p=0.480	p=0.223	p=0.151	p=0.414	p=0.190	p=0.370	p=0.084
Subjective monthly income								
Income covers expenses	37.51 (9.11)	14.63 (4.83)	13.37 (4.19)	19.03 (5.89)	8.54 (2.82)	13.65 (4.61)	6.35 (2.67)	11.29 (5.03)
Income partially covers expenses	36.80 (8.77)	14.44 (4.13)	13.02 (4.12)	19.24 (6.01)	8.78 (3.23)	14.90 (5.19)	6.70 (3.04)	11.10 (5.04)
Income inadequate compared to expenses	37.42 (9.69)	13.81 (4.53)	12.03 (4.09)	17.25 (6.24)	8.19 (3.23)	12.58 (5.97)	6.92 (3.06)	10.83 (4.72)
Test	F=0.116	F=0.455	F=1.513	F=1.459	F=0.406	F=2.366	F=0.724	X ² =0.165
p-value	p=0.891	p=0.635	p=0.222	p=0.235	p=0.667	p=0.096	p=0.486	p=0.921
Chronic disease								
Yes	35.51 (9.19)	14.49 (3.70)	14.26 (4.25)	21.28 (6.21)	9.70 (3.05)	16.21 (5.94)	7.21 (2.89)	13.77 (5.74)
No	37.88 (9.03)	14.45 (4.88)	12.75 (4.09)	18.08 (5.73)	8.20 (2.86)	13.04 (4.45)	6.31 (2.76)	10.43 (4.47)
Test	t=-1.677	t=0.059	t=2.353	t=3.514	t=3.301	t=3.598	t=2.060	U=3105.000
p-value	p=0.095	p=0.953	p=0.019*	p=0.001*	p=0.001*	p=0.001*	p=0.041*	p=0.000*
d			d=0.37	d=0.55	d=0.52	d=0.65	d=0.32	d=0.70
Family history of depression								
No	37.21 (9.25)	14.51 (4.64)	12.97 (4.16)	18.78 (5.93)	8.54 (3.00)	13.86 (4.95)	6.40 (2.65)	11.15 (4.84)
Yes	39.19 (6.65)	13.75 (4.67)	14.75 (4.06)	19.06 (6.78)	8.56 (2.61)	12.31 (5.47)	8.13 (4.21)	11.63 (6.66)
Test	U=1631.500	U=1582.000	U=1319.000	U=1754.000	U=1682.500	U=1347.000	U=1399.500	U=1666.500
p-value	p=0.626	p=0.499	p=0.093	p=0.982	p=0.767	p=0.116	p=0.168	p=0.720
Family history of psychiatric illness								
No	37.39 (9.26)	14.39 (4.61)	12.99 (4.15)	18.81 (5.99)	8.53 (3.00)	13.81 (5.04)	6.51 (2.77)	11.09 (4.95)
Yes	36.50 (4.12)	16.00 (5.23)	15.30 (4.17)	18.50 (6.13)	8.70 (2.16)	12.40 (3.57)	6.50 (3.75)	13.20 (5.33)
Test	U=925.000	U=917.000	U=761.000	U=1087.500	U=990.000	U=992.500	U=1031.500	U=856.000
p-value	p=0.331	p=0.312	p=0.080	p=0.840	p=0.503	p=0.514	p=0.638	p=0.190

*p<0.05; CDSS: Child depressive symptom scale, U: Mann-Whitney U, F: One-way ANOVA, p: Significance value, t: Independent Samples t-test, X²: Chi-square; *d: Cohen's d, SD: Standard deviation, ANOVA: Analysis of variance.

Table 6. Mean CDSS subscale scores according to the socio-demographic characteristics of the participants' children

Socio-demographic characteristics	Social adaptation mean (SD)	Impulsivity mean (SD)	Separation anxiety Mean (SD)	Impaired cognitive functioning mean (SD)	Somatization mean (SD)	Fantasy-reality confusion mean (SD)	Archaic anxiety mean (SD)	Aggression/ destructiveness mean (SD)
Child's age (years)								
3	39.42 (9.49)	14.14 (5.17)	13.22 (4.60)	17.47 (5.85)	7.78 (3.15)	12.67 (5.32)	6.56 (3.26)	10.11 (5.19)
4	37.11 (8.47)	15.51 (4.49)	13.30 (4.24)	18.53 (5.82)	8.39 (2.71)	12.42 (3.67)	6.12 (2.36)	10.42 (3.44)
5	37.98 (9.41)	13.54 (4.13)	12.81 (3.78)	19.43 (5.99)	8.89 (3.18)	14.71 (5.34)	6.48 (2.64)	11.22 (5.18)
6	35.51 (8.86)	14.92 (4.91)	13.20 (4.42)	19.00 (6.19)	8.66 (2.75)	14.36 (5.10)	6.90 (3.12)	12.48 (5.55)
Test	F=1.608	F=2.356	F=0.199	F=0.954	F=1.260	F=3.318	F=0.762	X ² = 8.170
p- value	p=0.188	p=0.073	p=0.897	p=0.415	p=0.289	p=0.021* η ² =0.04	p=0.517	p=0.043* r=0.19
Child's sex								
Female	37.05 (9.77)	13.72 (4.39)	13.08 (4.13)	19.09 (5.96)	8.58 (2.98)	13.64 (4.96)	6.79 (2.82)	11.18 (4.82)
Male	37.86 (7.83)	15.74 (4.79)	13.10 (4.26)	18.31 (6.02)	8.47 (2.95)	13.95 (5.07)	6.03 (2.73)	11.20 (5.24)
Test	t=-.703	t=-3.294	t=-.041	t=0.963	t=0.264	t=-0.469	t=2.012	U=6446.500
p- value	p=0.483	p=0.001* d=0.44	p=0.968	p=0.337	p=0.792	p=0.639	p=0.045* d=0.27	p=0.944
Performance in school								
Good	38.38 (9.88)	13.71 (4.07)	12.55 (3.54)	18.09 (6.14)	8.49 (2.88)	14.24 (5.66)	7.23 (2.95)	11.46 (5.60)
Fair	36.50 (8.43)	14.88 (4.89)	13.55 (4.40)	19.12 (5.46)	8.55 (2.96)	13.27 (4.24)	5.95 (2.55)	11.01 (4.27)
Poor	33.54 (8.11)	19.54 (6.92)	17.79 (5.45)	25.93 (4.17)	10.15 (5.15)	16.07 (3.90)	6.65 (1.99)	14.40 (7.58)
Test	F=1.583	F=4.222	F=5.852	F=4.166	F=0.952	F=1.513	F=5.222	X ² =2.795
p- value	p=0.194	p=0.006* η ² =0.04	p=0.001* η ² =0.05	p=0.007* η ² =0.04	p=0.416	p=0.212	p=0.002* η ² =0.04	p=0.424
Allergic disease in child								
No	37.20 (9.30)	14.39 (4.40)	12.87 (4.02)	18.63 (5.96)	8.13 (2.70)	13.79 (5.04)	6.44 (2.82)	11.37 (4.98)
Yes	38.70 (7.00)	15.09 (6.51)	15.13 (5.00)	20.35 (6.05)	12.35 (2.60)	13.44 (4.63)	7.22 (2.63)	9.44 (4.60)
Test	U=2311.500	U=2403.500	U=1841.000	U=2020.000	U=599.500	U=2395.000	U=1979.000	U=1740.000
p- value	p=0.657	p=0.882	p=0.050* r=0.13	p=0.167	p<0.001* r=0.22	p=0.860	p=0.127	p=0.021* r=0.15
Chronic disease and regular medication use								
No	37.39 (9.07)	14.38 (4.50)	12.94 (4.04)	18.67 (5.76)	8.43 (2.84)	13.66 (4.95)	6.50 (2.79)	11.07 (4.83)
Yes	36.00 (10.58)	17.29 (7.85)	18.14 (5.46)	23.14 (10.76)	12.14 (4.67)	16.71 (5.85)	7.00 (3.56)	14.86 (8.13)
Test	U=737.500	U=646.500	U=342.500	U=624.500	U=408.000	U=539.500	U=757.000	U=619.000
p- value	p=0.719	p=0.382	p=0.010* r=0.17	p=0.319	p=0.026* r=0.15	p=0.139	p=0.801	p=0.300

*p<0.05; CDSS: Child depressive symptom scale, U: Mann-Whitney U, F: One-way ANOVA, p: Significance value, t: Independent Samples t-test, X²: Chi-square, η²: Eta squared, d: Cohen's d, r: Effect size for non-parametric tests, SD: Standard deviation, ANOVA: Analysis of variance.

DISCUSSION

This study was conducted to evaluate depressive symptoms in 3- to 6-year-old children, as reported by their parents, and to identify factors associated with these symptoms. While research on depressive tendencies in children has been limited historically, it has recently received increased attention owing to growing awareness of mental health and its importance. However, the measurement tool used in this study was developed in 2020, and few studies have been conducted on the subject. Based on the reports of the parents participating in our study, the mean total score for children's depressive symptoms fell within the range of 56-191, which is below the midpoint of the possible score range (56-280).

Scores were lower for seven of the subscales (impulsivity, separation anxiety, impaired cognitive functioning, somatization, fantasy-reality confusion, archaic anxiety, and aggression/destructiveness) and were highest for the social adaptation subscale (Table 2).

However, the relatively low internal consistency coefficients observed for the impaired cognitive functioning and fantasy-reality confusion subscales (Cronbach's alpha =0.54 and 0.52, respectively) suggest compromised measurement reliability, which may limit the generalizability of the study findings.

Higher scores on the social adaptation subscale indicate that children are socially maladjusted. Consistent with our results, another study

conducted in a similar group reported low scores for impaired cognitive functioning, impulsivity, fantasy-reality confusion, archaic anxiety, aggression, and somatization.²⁸ However, the children in that study were reported to have better social adaptation than those in the current study. This may be because the study was conducted in a provincial center, where rural and urban life are intertwined, resulting in strong social relations and interpersonal interactions.²⁹ The social maladjustment observed in the present study may partly reflect changes in children's social interactions and communication patterns associated with increasing exposure to digital media and touchscreen technologies.³⁰

Our findings are similar to those of a study reporting that depressive symptom scores were higher for social adaptation but lower for impaired cognitive functioning, impulsivity, fantasy-reality confusion, archaic anxiety, aggression/destructiveness, and somatization.³¹

In this study, parents with chronic diseases reported higher levels of depressive symptoms in their children compared with parents without chronic diseases (Tables 3 and 5). This suggests that parental health problems may increase children's tendencies toward depressive symptoms. The stress, anxiety, and physical limitations experienced by parents while coping with their chronic disease may adversely impact the mental health of their children. This finding suggests that the psychological and physical stress experienced by parents while coping with chronic disease may be reflected in children's emotional and cognitive functioning. Parental chronic disease may lead to children having higher levels of anxiety (separation anxiety, archaic anxiety), disordered perception and cognition (impaired cognitive functioning, fantasy-reality confusion), more intense physical complaints (somatization), and occasional emotional dysregulation (aggression/destructiveness).^{32,33} Previous studies have reported that the children of parents with chronic disease have increased internalizing problems (anxious, depressive, and introverted behaviors, and somatic complaints) and externalizing problems (anger, aggression, impulsivity, disobedience, and uncooperativeness).^{32,33} These findings suggest that, considering parents' influence as role models, observing chronic disease in a parent may influence a child's mental health.

Children with poor school performance had higher depressive symptom scores overall and across symptom subscales (Tables 4 and 6). School performance that does not meet expectations may negatively affect children by leading to stress and low self-confidence.^{34,35} In an Australian study, depression and anxiety symptoms were found to lead to significant learning losses, especially in motor skills. The authors concluded that childhood anxiety and depression are not only predictors of later mental health problems but also adversely impact academic achievement.³⁶ In a study conducted in Taiwan, students with low academic performance had a higher risk of depressive symptoms.³⁷ Several studies conducted among young children have shown that emotional and behavioral difficulties, including aggressive behaviors and separation anxiety, are associated with poorer academic outcomes.^{38,39} Thus, the results of our study are consistent with those reported in the literature.

Children with allergic diseases had higher total depressive symptom scores and higher scores on separation anxiety and somatization subscales, whereas children without allergic diseases had higher aggression/destructiveness scores (Tables 4 and 6). Previous studies have shown that allergic diseases are associated with increased mental health problems and internalizing symptoms during childhood. These associations may be related to the psychological burden of chronic

disease, symptom uncertainty, and repeated healthcare experiences.^{40,41} However, the mechanisms underlying the relationship between allergic diseases and specific emotional symptoms remain unclear. Therefore, findings related to the somatization subscale should be interpreted cautiously due to its relatively low internal consistency in the present sample.

Similarly, the presence of chronic disease and regular medication use in the child were associated with higher total depressive symptom scores and higher subscale scores for separation anxiety and somatization (Tables 4 and 6). This is consistent with a 2011 meta-analysis by Pinquart and Shen that showed that children and adolescents with chronic physical illness exhibited higher levels of depressive symptoms than healthy peers. Conditions such as chronic fatigue syndrome, fibromyalgia, migraine, and, in particular, epilepsy were associated with more pronounced effects.⁴² Chronic health problems may adversely affect children's mental health and put them at greater risk of psychological consequences, because they have difficulty coping with physical disorders and because they face associated limitations on their social lives. Other recent studies reported that children and adolescents with chronic diseases have a higher incidence of anxiety and depression than their healthy peers.^{43,44} In the literature, chronic diseases and long-term medication use in preschool students have been suggested to hinder motor, social, and cognitive development due to physical restrictions, low energy levels, perception of the disease as punishment, and development of immature behaviors.⁴²

Regarding gender, mothers in our study scored significantly higher on the somatization subscale of the CDSS (Table 5), suggesting that mothers may be more aware of children's physical complaints than fathers. Considering the association between somatic symptoms and anxiety, the greater importance mothers place on their children's physical complaints may reflect greater maternal awareness of anxiety-related behaviors. Similarly the study reported that mothers placed greater importance on their children's anxious behaviors.⁴⁵ However, our findings should be interpreted in light of the low internal consistency coefficients obtained for the separation anxiety and somatization subscales, as well as the small number of children with chronic disease and regular medication use.

Scores on the fantasy-reality confusion subscale were highest for 5-year-old children in this study (Table 6). There is no research directly related to this finding in the literature. However, the perception of objective reality develops with age, and there may be age-related differences in understanding certain concepts. In addition, children's ability to distinguish between what is real and what is not is not sufficiently developed before starting kindergarten.⁴⁶

Scores in the aggression/destructiveness subscale were highest for the 6-year-old children in this study (Table 6). The impending transition from kindergarten to elementary school, along with the changes 6-year-old children experience as social expectations increase, may lead them to resort more frequently to destructive acts or displays of power in moments of anger and frustration; the conflict between seeking developmental independence and facing restrictive rules may also increase destructive tendencies. Oppositional defiant disorder is often seen in children of this age, and conflict may be especially common in families with high emotional expressivity, which may also lead to increased destructive behavior.⁴⁷

When CDSS subscale scores were examined by child sex, parents of male children reported higher impulsivity scores, whereas parents of female children reported higher archaic anxiety scores (Table 6). Archaic anxiety is associated with death, loss, and damage, whereas impulsivity is associated with hyperactivity and aggression.²⁷ Our results are consistent with tendencies toward excessive mobility and extroverted behavior in boys, and with the separation anxiety and fear-oriented reactions often associated with girls. Studies conducted in similar groups also showed that behaviors such as aggression, hyperactivity, and inattention were more common in boys, whereas fear and separation anxiety were more common in girls.^{25,26}

Study Limitations

Parents' reluctance and negative attitudes toward participating in surveys related to preschool depression constitute significant limitations for studies in this field. Furthermore, the scarcity of data on depressive symptoms in the 3- to 6-year age group posed a challenge when comparing our findings with the existing literature.

The present study has several methodological limitations. Because the research primarily relied on univariate and bivariate analyses, potential confounding variables could not be controlled, nor could independent predictors be identified. Consequently, the findings should be considered descriptive and hypothesis-generating, and future studies are recommended to employ multivariate analyses. Additionally, the lack of adjustments for multiple comparisons may have inflated the risk of type I errors. Although effect sizes were reported, some findings may reflect spurious associations; thus, the results must be interpreted with caution. The small sample size in certain subgroup analyses, particularly among children with chronic illnesses, also limits the reliability and generalizability of those specific findings.

Regarding psychometrics, internal consistency was low in certain CDSS subscales, particularly impaired cognitive functioning and fantasy-reality confusion indicating limitations in measuring these constructs. Furthermore, because the study was conducted within a single sociocultural region, its generalizability is limited, and the cross-sectional design precludes causal inference.

Nevertheless, this study contributes valuable data to the limited literature on depressive symptoms in preschool children. Using parent-reported data collected in the natural home environment, the study yields findings with high ecological validity. Ultimately, these results have the potential to inform and enhance early intervention and preventive mental health initiatives.

CONCLUSION

This study demonstrated that both parental psychosocial characteristics and children's individual and environmental characteristics significantly affected parent-reported depressive symptoms among children aged 3-6 years. Parents with chronic diseases reported higher depressive symptom subscale scores in their children. When compared across age and sex groups, fantasy-reality confusion scores were highest among 5-year-old children, aggression/destructiveness scores were highest among 6-year-old children, impulsivity scores were highest among boys, and archaic anxiety scores were highest among girls. Subscale scores for separation anxiety and somatization were higher for children with an allergic or other chronic disease who used regular medication. These findings suggest that mental health professionals and other health

care providers working with children should develop early diagnostic and intervention programs that take these risk factors into account. Providing information and developing psychoeducational programs for parents may also effectively support their children's mental health. Furthermore, initiatives to enhance social cohesion may be beneficial.

MAIN POINTS

- Parent-reported depressive symptoms in preschool children were associated with both child-related and parental psychosocial factors.
- Children with allergic or chronic diseases, and those with poor academic performance, showed higher levels of depressive symptoms.
- Parental chronic illness was associated with increased depressive symptom subscale scores in children.
- Boys showed higher impulsivity scores, whereas girls showed higher archaic anxiety scores.

ETHICS

Ethics Committee Approval: Approved the study protocol Ağrı İbrahim Çeçen University Scientific Research Ethics Committee (approval number: 406, date: 28.11.2024).

Informed Consent: All participants provided written informed consent.

Footnotes

Authorship Contributions

Surgical and Medical Practices: M.C., Y.A., B.D.G., Concept: M.C., Y.A., B.D.G., Design: M.C., Y.A., B.D.G., Data Collection and/or Processing: Y.A., Analysis and/or Interpretation: M.C., Literature Search: M.C., Y.A., B.D.G., Writing: M.C., Y.A., B.D.G.

DISCLOSURES

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REFERENCES

1. Baughman N, Prescott SL, Rooney R. The prevention of anxiety and depression in early childhood. *Front Psychol*. 2020; 11: 517896.
2. Gawlik KS, Melnyk BM, Tan A. Burnout and mental health in working parents: risk factors and practice implications. *J Pediatr Health Care*. 2025; 39(1): 41-50.
3. Kiliç C, Üstün B, Uluğ ÖŞ, Ak S, Ulusoy M, Kamilşli S, et al. Prevalence, persistence, and severity of 12-month and 30-day dsm-5 disorders in the Turkish World Mental Health Survey. *Turk Psikiyatri Derg*. 2026; 37: 180-91.
4. World Health Organization. *World Mental Health Report*. WHO: 2022. Access date: 28 February 2026. Available from: <https://www.who.int/teams/mental-health-and-substance-use/world-mental-health-report>
5. Domènech-Llaberia E, Araneda N, Xifró A, Riba MD. Escala de depresión preescolar para maestros (ESDM 3-6): primeros resultados de validación. *Psicothema*. 2003; 15(4): 575-80. Spanish.

6. Ramdhoney-Dowlot K, Balloo K, Morgül E, Essau CA. Prevalence of anxiety and depression among children and adolescents in low- and middle-income countries-a systematic review. *Psychiatr Res Clin Pract*. 2025; 7(4): 218-43.
7. Donohue MR, Whalen DJ, Gilbert KE, Hennefield L, Barch DM, Luby J. Preschool depression: a diagnostic reality. *Curr Psychiatry Rep*. 2019; 21(12): 128.
8. Whalen DJ, Sylvester CM, Luby JL. Depression and anxiety in preschoolers: a review of the past 7 years. *Child Adolesc Psychiatr Clin N Am*. 2017; 26(3): 503-22.
9. Juul EML, Hjemdal O, Aune T. Prevalence of depressive symptoms among older children and young adolescents: a longitudinal population-based study. *Scand J Child Adolesc Psychiatr Psychol*. 2021; 9: 64-72.
10. Lewis AJ, Sae-Koew JH, Toumbourou JW, Rowland B. Gender differences in trajectories of depressive symptoms across childhood and adolescence: a multi-group growth mixture model. *J Affect Disord*. 2020; 260: 463-72.
11. Kieling C, Buchweitz C, Caye A, Silvani J, Ameis SH, Brunoni AR, et al. Worldwide prevalence and disability from mental disorders across childhood and adolescence: evidence from the global burden of disease study. *JAMA Psychiatry*. 2024; 81(4): 347-56.
12. Hoyniak CP, Donohue MR, Hennefield L, Whalen DJ. Preschool mood disorders: a review of the literature from 2017 to 2024. *Child Adolesc Psychiatr Clin N Am*. 2025; 34(2): 325-37.
13. Silver J, Olino TM, Carlson GA, Dougherty LR, Bufferd SJ, Klein DN. Depression in 3/6-year-old children: clinical and psychosocial outcomes in later childhood and adolescence. *J Child Psychol Psychiatry*. 2022; 63(9): 984-91.
14. Koyuncu Z, Zabcı N, Seçen Yazıcı M, Sandıkçı T, Çetin Kara H, Doğangün B. Evaluating the association between developmental language disorder and depressive symptoms in preschool children. *Applied Neuropsychology: Child*. 2026; 15(2): 159-68.
15. Power J, Watson S, Chen W, Lewis AJ, van IJendoorn MH, Galbally M. Maternal emotional availability and perinatal depressive symptoms as predictors of early childhood executive function. *J Affect Disord*. 2024; 365: 332-40.
16. Camacho NL, Fowler CH, Gaffrey MS. Dimensions of depressive symptoms in young children: factor analysis of the preschool feelings checklist-scale. *Assessment*. 2025; 32(4): 544-60.
17. Genç M, Tolan Ö. Play therapy practices in psychological and developmental disorders that are common in preschool period. *Current Approaches in Psychiatry*. 2021; 13(2): 207-31.
18. Luby JL, Gaffrey MS, Tillman R, April LM, Belden AC. Trajectories of preschool disorders to full DSM depression at school age and early adolescence: continuity of preschool depression. *Am J Psychiatry*. 2014; 171(7): 768-76.
19. McGinnis EW, Anderau SP, Hruschak J, Gurchiek RD, Lopez-Duran NL, Fitzgerald K, et al. Giving voice to vulnerable children: machine learning analysis of speech detects anxiety and depression in early childhood. *IEEE J Biomed Health Inform*. 2019; 23(6): 2294-301.
20. Carneiro A, Soares I, Rescorla L, Dias P. Meta-analysis on parent-teacher agreement on preschoolers' emotional and behavioural problems. *Child Psychiatry Hum Dev*. 2021; 52(4): 609-18.
21. Egger HL, Angold A. Common emotional and behavioral disorders in preschool children: presentation, nosology, and epidemiology. *J Child Psychol Psychiatry*. 2006; 47(3-4): 313-37.
22. Wakschlag LS, Sherlock P, Blackwell CK, Burns JL, Krogh-Jespersen S, Gershon RC, et al. Modeling the normal:abnormal spectrum of early childhood internalizing behaviors: a clinical-developmental approach for the multidimensional assessment profiles internalizing dimensions. *Int J Methods Psychiatr Res*. 2023; 32(51): e1987.
23. World Health Organization, UNICEF. WHO and UNICEF launch guidance to improve access to mental health care for children and young people. 2024. Available from: <https://www.who.int/news/item/09-10-2024-who-and-unicef-launch-guidance-to-improve-access-to-mental-health-care-for-children-and-young-people>
24. Yazıcıoğlu Y, Erdoğan S. SPSS uygulamalı bilimsel araştırma yöntemleri. Ankara: Detay Yayıncılık; 2004.
25. Derdiyok ZS, Kahraman ÖG. Investigation of preschool children's anxiety in terms of parent emotion socialization behaviors. *Journal of Early Childhood Studies*. 2024; 8(1): 100-29.
26. Işık E. Examining behavioral problems in early childhood in terms of various variables. *Uludağ Üni Fen-Edeb Fak Sos Bil Derg*. 2021; 22(40): 183-226.
27. Erol E, Zabcı N, Şimşek ÖF. Development of child depressive symptoms assessment scale. *Anadolu Psikiyatri Derg*. 2020; 21(Suppl 2): 14-20.
28. Onat B, Özkan E, Algedik P. The independent protective role of paternal involvement in the association between maternal containment and depressive symptoms in children aged 3-6. *J Med Palliat Care*. 2026; 7(4): 710-6.
29. Kaya F, Aktaş S. The contribution of recreation areas developed in the city of agri and its close to urban livability. *Ağrı İbrahim Çeçen Üni Sos Bil Ens Derg*. 2023; 9(2): 271-300.
30. Misirli A, Fotakopoulou O, Dardanou M, Komis V. The impact of touchscreen digital exposure on children's social development and communication: a systematic review. *Front Psychol*. 2025; 16: 1613625.
31. Zabcı N, Erol E. Relationship between depressive symptoms of children 3-7 years and the containing functions of their moms. *AYNA Clin Psychol J*. 2021; 8(3): 510-34.
32. Elliott L, Thompson KA, Fobian AD. A systematic review of somatic symptoms in children with a chronically ill family member. *Psychosom Med*. 2020; 82(4): 366-76.
33. Razaz N, Joseph KS, Boyce WT, Guhn M, Forer B, Carruthers R, et al. Children of chronically ill parents: relationship between parental multiple sclerosis and childhood developmental health. *Mult Scler*. 2016; 22(11): 1452-62.
34. Zhang Y, Jiang M. Parent-child mismatch in educational expectations and depressive symptoms among Chinese adolescents. *Healthcare*. 2024; 12(17): 1792.
35. Zhao H, Zhu X, Li W, Lin X. When parents worry: how parental educational anxiety impacts adolescent academic success through depression, self-efficacy, and social media. *Int J Ment Health Promot*. 2025; 27(4): 517-40.
36. Mundy LK, Canterford L, Moreno-Betancur M, Hoq M, Viner RM, Bayer JK, et al. Learning outcomes in primary school children with emotional problems: a prospective cohort study. *Child Adolesc Ment Health*. 2023; 28(3): 377-84.
37. Gao Y, Hu D, Peng E, Abbey C, Ma Y, Wu CI, et al. Depressive symptoms and the link with academic performance among rural Taiwanese children. *Int J Environ Res Public Health*. 2020; 17(8): 2778.
38. Massetti GM, Lahey BB, Pelham WE, Loney J, Ehrhardt A, Lee SS, Kipp H. Academic achievement over 8 years among children who met modified criteria for attention-deficit/hyperactivity disorder at 4-6 years of age. *J Abnorm Child Psychol*. 2008; 36: 399-410.
39. Battaglia M, Garon-Carrier G, Côté SM, Dionne G, Touchette E, Vitaro F, et al. Early childhood trajectories of separation anxiety: bearing on mental health, academic achievement, and physical health from mid-childhood to preadolescence. *Depress Anxiety*. 2017; 34(10): 918-27.
40. Edvinsson Sollander S, Fabian H, Sarkadi A, Salari R, Fält E, Dahlberg A, et al. Asthma and allergies correlate with mental health problems in preschool children. *Acta Paediatr*. 2021; 110(5): 1601-9.
41. Kern C, Wan J, LeWinn KZ, Ramirez FD, Lee Y, McCulloch CE, et al. Association of atopic dermatitis and mental health outcomes across childhood: a longitudinal cohort study. *JAMA Dermatol*. 2021; 157(10): 1200-8.

42. Pinquart M, Shen Y. Depressive symptoms in children and adolescents with chronic physical illness: an updated meta-analysis. *J Pediatr Psychol.* 2011; 36(4): 375-84.
43. Barker MM, Beresford B, Fraser LK. Incidence of anxiety and depression in children and young people with life-limiting conditions. *Pediatr Res.* 2023; 93(7): 2081-90.
44. Boris P, Kovács KE, Nagy BE. The comparative study of chronically ill and healthy children and adolescents in the light of their general mental health. *Sci Rep.* 2024; 14(1): 6754.
45. Jansen M, Bodden DHM, Muris P, van Doorn M, Granic I. Measuring anxiety in children: the importance of separate mother and father reports. *Child Youth Care Forum.* 2017; 46(5): 643-59.
46. Woolley JD, Ghossainy ME. Revisiting the fantasy–reality distinction: children as naïve skeptics. *Child Development.* 2013; 84(5): 1496-510.
47. Demir Gökmen B, Yılmaz G. Çocuklarda yıkıcı dürtü denetimli kontrol ve davranım bozuklukları ve hemşirelik yaklaşımı. In: Kardaş Özdemir F, Günaydın N, Küçük Alemdar D, editors. *Çocuklarda psikososyal sorunlar ve hemşirelik yaklaşımı.* Ankara: Akademisyen Kitabevi; 2025. p. 40-73.