The Turkish Journal of Pediatrics 2025; 67: 372-384
https://doi.org/10.24953/turkjpediatr.2025.5782

Original Article

Disruptive behaviors in early childhood: the influence of family practices and functionality in a Turkish sample

Merve Çıkılı Uytun[1], Esra Yürümez[1], Gökçe Yağmur Efendi[2], Hande Konşuk Ünlü[3], Serpil Aktaş Altunay[4], Didem Behice Öztop[1]

[1]Department of Child and Adolescent Psychiatry, Faculty of Medicine, Ankara University, Ankara, Türkiye; [2]Department of Child and Adolescent Psychiatry, Faculty of Medicine, Kocaeli University, Kocaeli, Türkiye; [3]Institute of Public Health, Hacettepe University, Ankara, Türkiye; [4]Department of Statistics, Faculty of Science, Hacettepe University, Ankara, Türkiye.

ABSTRACT

Background. Disruptive behaviors (DB) are common problems in young children. The aim of the current study was to highlight the effect of disruptive behaviors on functionality in preschool children and their families and identify factors that may be related to functionality.

Materials and Methods. A total of 223 patients were included in the current study from the Turkish Validity and Reliability Study of Preschool Age Psychiatric Assessment (PAPA). The disruptive behavior problems group (n=93) was selected according to PAPA and consisted of patients who had more than 3 conduct problem symptoms, with these symptoms leading to impairment. The control group (n=130) was selected from patients with no disruptive behavior disorder and 3 or fewer conduct problem symptoms . Preschool Age Psychiatric Assessment and Child Behavior Checklist for Ages 1.5-5 (CBCL/1½–5) were used for assessment.

Results. We found that spanking with the hand, verbal dispraise, and selective negative view to child were more frequent in the DB group than in the control group. DB symptoms were found to have a negative impact both on the child's functioning in several areas and on the parent's life in specific areas. Additionally, most of the CBCL scores were significantly higher in the DB group. Finally, it was shown that not only disruptive symptoms but factors such as the presence of attention deficit hyperactivity disorder, parental psychopathology, and the age of the child predicted impairment in this functioning.

Conclusion. These findings emphasize that parents' and child's functionalities can be highly affected by disruptive problems even in an early period such as preschool and that this area should not be ignored in evaluation and interventions.

Key words: disruptive behaviors, preschool, children, functionality, parenting.

Disruptive behaviors (DB), such as aggression, defiance, and temper tantrums, are among the most commonly reported types of behavioral difficulties in early childhood.[1] This early clinical phenomenology reflects deviation from normative developmental patterns within an age period.[2] Although some DB are considered a normal part of the developmental process of preschool children, they are the most common complaints among parents of young children in multiple settings.[3,4] According to previous studies, severe DB in early-life is predictive of a child's performance as they grow into school age, adolescence, and adulthood. Furthermore, early childhood diagnosis of disruptive behavior disorders (DBDs) is a strong predictor

✉ Merve Çıkılı Uytun ▪ uytun@ankara.edu.tr

Received 15th Jan 2025, revised 3rd Mar 2025, 13th Apr 2025, accepted 27th Apr 2025.

of long-lasting disruptive psychopathology and adverse life outcomes.[5-7]

Earlier research has highlighted various risk factors linked to disruptive behaviors, such as parental depression[8], conflict and maltreatment in the family[9], and poverty.[10] Parenting styles have been among the most commonly studied risk factors.[11-13] Most observational studies have consistently shown that children whose parents have negative parenting styles are more likely to develop DB problems. In contrast, parents who employ positive parenting styles are less likely to have children displaying disruptive behaviors.[11,12] In particular, exposure to physical and verbal punishment during preschool years is found to be associated with high levels of DB, which persists or increases across development.[14,15]

Studies conducted in different cultures have shown similar results. For example, a recent study involving a large cohort from United States with low-income urban families found that maternal spanking at age three predicted externalizing behaviors at age five, independent of other parental factors.[16] A study of clinic-referred children in Belgium found that high levels of maternal-reported coerciveness, including physical punishment, were associated with an increase in externalizing behaviors over time.[17] Considering the long-term negative consequences of conduct problems, it is important to recognize the associated factors in the early period. Although there are some studies investigating parenting practices in preschool children in Turkey[18,19], to our knowledge there is no study in the Turkish sample examining the relationship between behavioral problems and parenting attitudes, including functionality in preschool-aged children through the Turkish adaptation of the Preschool Age Psychiatric Assessment (PAPA).

Although many studies assume parents have a one-directional influence on their children's behaviors, findings suggest a reciprocal relationship, such that children's behaviors may have an impact on their parents too.[13,20,21] There have however been a few studies that have examined this bidirectional relationship between various externalizing behavioral problems and parenting styles, yet findings have been inconsistent.[22-24] This bidirectional relationship has been mostly studied in attention deficit hyperactivity disorder (ADHD), which often accompanies conduct problems and has been shown to be bidirectionally impaired in relation to parental functionality.[25,26] The results support both parent and child effects in the relation between child ADHD symptoms and family functioning.[25] Moreover, existing research and cross-cultural theory suggest that children's socialization, developmental patterns, and parent-child interactions may vary across cultures.[26] Therefore, necessitating an investigation into this bidirectional relationship in our own culture in a clinical preschool sample.

In the current study, we hence aimed to evaluate parenting characteristics (i.e. emotional warmth, control attempts, discipline) family functionality, and disruptive problems in a sample of Turkish preschool children. We hypothesized that children with more DB symptoms would have more problematic parental attitudes and poorer family functioning than children with fewer DB symptoms. Additionally, we expected DB symptoms and other factors such as ADHD diagnosis and parental psychopathology to affect family functioning in a negative way.

Materials and Methods

Participants

The participants of the study were selected from the Turkish Preschool Age Psychiatric Assessment (PAPA) Reliability and Validity Study. Parents of all children who applied to our university's Department of Child and Adolescent Psychiatry outpatient clinic, between the ages of 2 and 6 years, were administered the structured interview PAPA. The Turkish PAPA study involved 300 patients. Because behavioral problems are often accompanied

by other disorders, patients diagnosed with neurodevelopmental disorders such as autism spectrum disorders and global developmental delay were excluded so as to not confound the results. Diagnostic assessments for autism spectrum disorder and global developmental delay were performed by experienced clinicians based on the criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). A total of 223 patients were included in the current study.

The high DB group (n=93) included children who had more than 3 conduct problem symptoms whose symptoms were related to functional impairment due to disruptive problems and had no chronic medical conditions. Patients with 3 or fewer conduct problem symptoms, who had no functional impairment due to disruptive problems and no chronic medical condition were considered as the Low DB group (n=130). Since oppositional defiant disorder (ODD) in the PAPA includes the same diagnostic criteria as DSM-5, and the diagnosis requires meeting at least four criteria and impaired functioning, this was accepted as the threshold. Other psychiatric disorders (ADHD, anxiety disorders etc.) were also assessed using PAPA and were not exclusion criteria for either group.

Measures

Sociodemographic data form:

The form was created by researchers based on the original sociodemographic form of the PAPA and included questions to gather information about the age, gender, education level of the child and parents, family structure, and number of siblings.

The 'Child behavior checklist for ages 1.5-5' (CBCL/1½–5):

The CBCL/1½–5 is a parent-rated questionnaire designed to assess children's problem behaviors and consists of 100 items about children's behaviors and emotional issues.[27] The CBCL/1½–5 consists of seven subscales into which the items can be clustered: emotionally reactive, anxious/depressed, somatic complaints, withdrawn, sleep problems, attention problems, and aggressive behavior. The Turkish standardization study was conducted by Erol et al.[28] This scale was used in this study to assess and compare behavioral and emotional problems.

Preschool age psychiatric assessment (PAPA):

PAPA, developed in 1999, is an interviewer-based, caregiver-reported diagnostic assessment method. This structured interview evaluates the symptoms in four main areas: (1) diagnostic criteria of all diagnoses in DSM-5 and ICD-11, (2) all of the Research Diagnostic Criteria-Preschool Age (RDC-PA) items, (3) all of the Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood 5 (DC: 0-5), (4) potential behaviors and symptoms that are not merely diagnostic criteria like sleeping rituals and peer relationships. In addition, the interview assessed the family environment and relationships, family psychosocial status, and functional impairments. It covered not just disorders and problems, but all aspects that affect young children's mental health.[29]

The reliability study of PAPA was conducted by Egger et al., and no significant difference was found in reliability according to age, gender, and race. The interview has been shown to be a valid tool for children aged between 2 and 6 years, although its use up to age 8 years has been established.[30,31] The psychometric study was conducted in Turkey, and reliability and validity were demonstrated in the Turkish population.[32] The PAPA conduct section covers all DSM-5 criteria for ODD and conduct disorder (CD). The PAPA was used in the current study to evaluate conduct problems, family demographics, and family functionality. For this assesment, Family section, Conduct Problems section, Incapacity section and Child and Adolescent Impact Assessment sections were used. In the interview, the interviewer asked about symptoms related to each relevant module. Following the guidelines in the PAPA

dictionary, each symptom was assessed on a three-point scale — absent (0), sometimes present (1), or definitely present (2) —. The symptom scales provided a continuous measure of observed symptoms. These scores were summed to obtain the total score. Similarly, a numerical variable was obtained by summing the scores of the variables related to functionality. Higher scores indicate more severe impairment in functioning across more areas.

Procedure

Patients aged between 2 and 6 years who applied to our outpatient clinic were evaluated, and written and verbal consent was obtained from the parents who agreed to participate in the study. Following this, a child psychiatrist interviewed the parents and children. After the interview, the clinician completed the sociodemographic data form and PAPA short forms, and the CBCL/1½–5 was completed by the parents. Of the parents interviewed, 215 (96%) were mothers, 5 were fathers (2.2%), and in 3 cases (1.34%) were both mothers and fathers. The study was approved by the Ankara University Faculty of Medicine Non-Invasive Clinical Research Ethics Committee on October 10, 2019 (Decision No: I4-151-19).

Statistical analysis

For evaluating the tests and scales, IBM SPSS Statistics for Windows 30.0 software was used. Descriptive statistics are given as mean ± standard deviation or median and interquartile range (IQR) for continuous variables. Frequencies (percentages) are given for categorical variables. The Kolmogorov-Smirnov test is used to check whether continuous variables follow a normal distribution. For comparisons of groups, the independent sample t-test was used for independent samples of normally distributed data. The Mann-Whitney U test was performed to test the significance of pairwise differences. The chi-square or Fisher's exact test was used for comparison of categorical variables. A multiple linear regression model was used to identify independent predictors of functionality. Goodness-of-fit statistics were used to assess model fit. The significance level for this study was set to 5%. The $p<0.05$ was considered statistically significant.

Results

A total of 223 children, with a mean age of 45.74 months (standard deviation: 12.93), were included in the study. Among the children, 116 (52.07%) were boys. The sociodemographic characteristics of the groups are shown in Table I.

We assessed maternal and paternal attitudes that could be related to DB. Spanking with the hand, verbal dispraise, and selective negative view were more common in the DB group (Table II).

We also analyzed parents' relationship, perceptions about their partners, and mental health status, as factors that could be related to higher DB. Both mothers and fathers have more psychopathology in the high DB group. Parental arguments were seen as more frequent in the high DB group. Socioeconomic levels were similar in the groups (Table III).

Another aspect that we evaluated was the areas of impairment in the PAPA. There was a serious deterioration in the child's functionality in almost all areas (Table IV). When the correlation between CBCL and impairment in child's functioning was evaluated, it was found that the domains of relationships with parents, helping in cooperation, leisure time activities, problems with adults outside the home/nursery and ability to act appropriately outside home or daycare/school were positively correlated with the CBCL domains of ADHD (relationship with mother: $r=0.24$, $p<0.001$; relationship with father: $r=0.24$, $p<0.001$; helping in cooperation: $r=0.2$, $p=0.002$, problems with adults outside the home/nursery: $r=0.21$, $p=0.001$; ability to act appropriately outside home or daycare/school: $r=0.21$, $p=0.001$), aggressive behaviors (relationship with mother: $r=0.4$, $p<0.001$;

Table I. Sociodemographic characteristics of the groups .

Sociodemographic characteristics	Low DB group n=130	High DB group n=93	p
	M±SD / n (%)	M±SD / n (%)	
Age (months)	45.8±14.48	44.91±12.13	0.86[a]
Gestational age at birth (week)	38.2±1.7	38.43±1.26	0.53[a]
Maternal age (years)	34.16±5.68	33.29±6.18	0.32[a]
Years of maternal education	12.59±4.07	12.75±4.51	0.75[a]
Paternal age (years)	37.81±7.58	36.36±6.8	0.38[a]
Years of paternal education	12.85±4.31	12.6±4.8	0.39[a]
Gender			
Female	65 (50)	42 (45.2)	0.47[b]
Male	65 (50)	51 (54.8)	
Who child lives with			
Mother and father	121 (93)	89 (94.6)	0.43[c]
Only the mother or father	9 (7)	4 (5.4)	
Psychopathologies			
No	84 (64)	0 (0)	<0.001***
ADHD	17 (13)	45 (48)	<0.001***
Anxiety disorders	31 (23.8)	35 (37.6)	0.02[c]*
Mood disorders	1 (0.7)	5 (5.37)	0.08
Other (eating disorders, tic, etc)	6 (4.6)	9 (9.6)	0.3

ADHD, attention deficit hyperactivity disorder; DB, disruptive behavior; M, mean; SD, standart deviation; [a]independent sample t-test; [b]chi-square test; [c]fisher's exact test; *p<0.05, **p<0.01, ***p<0.001

relationship with father: r=0.44, p<0.001; helping in cooperation: r=0.28, p<0.001, problems with adults outside the home/nursery: r=0.19, p=0.002; leisure time activities: r=0.25, p<0.001; ability to act appropriately outside home or daycare/school: r=0.21, p=0.001; peer relationships: r=0.19, p=0.003), somatic (helping in cooperation: r=0.23, p<0.001, problems with adults outside the home/nursery: r=0.17, p=0.008; leisure time activities: r=0.27, p<0.001; ability to act appropriately outside home or daycare/school: r=0.22, p<0.001), sleep (relationship with mother: r=0.24, p<0.001; relationship with father: r=0.22, p<0.001; sibling problems: r=0.24, p<0.001; helping in cooperation: r=0.25, p<0.001, problems with adults outside the home/nursery: r=0.22, p<0.001; leisure time activities: r=0.19, p=0.003), anxious/depressed (relationship with mother: r=0.24, p<0.001; relationship with father: r=0.18, p=0.007; helping in cooperation: r=0.18, p=0.005, problems with adults outside the home/nursery: r=0.26, p<0.001; peer relationships: r=0.2, p=0.002), withdrawn (problems with adults outside the home/nursery: r=0.29, p<0.001; leisure time activities: r=0.25, p<0.001; ability to act appropriately outside home or daycare/school: r=0.19, p=0.004; peer relationships: r=0.27, p=0.001), emotional reactivity (relationship with mother: r=0.25, p<0.001; relationship with father: r=0.22, p<0.001; helping in cooperation: r=0.21, p=0.008, problems with adults outside the home/nursery: r=0.22, p<0.001).

We also assessed the specific impact of symptoms on aspects of the parent's life. We found that DB symptoms had a more significant negative impact on the parent's relationship with other children, relationship with other family members, and participation in social and personal activities, in the high DB group compared to the low DB group (Table V).

Table II. Comparison of maternal and paternal disciplinary practices between groups, n (%).

Variables	Low DB group n=130	High DB group n=93	p
Maternal Discipline			
Time out	11 (8.5)	9 (9.7)	0.46[a]
Spanking with hand	18 (13.8)	31 (33.3)	0.001**[b]
Spanking with object	3 (2.3)	3 (3.2)	0.49[a]
Marks or bruises	1 (0.8)	1 (1.1)	0.66[b]
Sent to room	32 (24.6)	26 (28)	0.64[b]
Loss of privileges	63 (48.5)	55 (59.1)	0.18[b]
Verbal dispraise	10 (7.7)	18 (19.4)	0.01*[b]
Verbal rejection	8 (6.2)	12 (12.9)	0.08[b]
Selective negative view	3 (2.3)	9 (9.7)	0.01*[b]
Disciplinary style			
Normal	34 (26.2)	18 (19.4)	0.45[b]
A bit angry, but controlled	91 (70)	70 (75.3)	
Cold, out of control	5 (3.8)	5 (5.4)	
Paternal Discipline			
Time out	5 (3.8)	3 (3.2)	0.71[b]
Spanking with hand	7 (5.4)	24 (25.8)	<0.001***[b]
Spanking with object	5 (3.8)	4 (4.3)	0.73[b]
Marks or bruises	2 (1.5)	0 (0)	0.35[b]
Sent to room	14 (10.8)	19 (20.4)	0.11[b]
Loss of privileges	36 (27.7)	34 (36.6)	0.31[b]
Verbal dispraise	9 (6.9)	15 (16.1)	0.04*[b]
Verbal rejection	3 (2.3)	6 (6.5)	0.19[b]
Selective negative view	2 (1.5)	10 (10.8)	0.002**[b]
Disciplinary Style			
Normal	40 (30.7)	21 (22.6)	0.09[b]
A bit angry, but controlled	86 (66.2)	64 (68.8)	
Cold, out of control	4 (3.1)	8 (8.6)	

DB, disruptive behavior; [a]Chi-square test; [b]fisher's exact test; *p<0.05, **p<0.01, ***p<0.001

In line with our hypothesis and correlation analysis, multiple linear regression analysis was performed to investigate the factors that affected children's functionality (Table VI). We used the backward linear regression method. First, we included the child's age, gender, maternal psychopathology, paternal psychopathology, presence of ADHD, and number of symptoms of DB in the model. Then, the maternal psychopathology and gender of the child, which was found to be unrelated, were excluded from the model. It was found that the gender of the child, presence of paternal psychopathology, presence of ADHD, and number of symptoms of DB were associated with deterioration of child's functionality, as shown in Table VI.

We also performed correlation analyses to investigate the influence of factors related to parental impact. There was a weak positive correlation between impact on parents and symptom number of DB (r=0.16, p=0.01 and presence of ADHD (r=0.19, p=0.004). In the multiple regression analysis, no significant effect of these factors was found.

Table III. Comparison of maternal and paternal perceptions, mental health, and relationship problems between groups, n (%).

Variables	Low DB group n=130	High DB group n=93	p
Maternal perceptions and mental health			
Dissatisfaction with partner's help	40 (30.7)	41 (44)	0.23[a]
Dissatisfaction with communication and decision-making	26 (20)	31 (33)	.12[a]
Psychopathology	28 (21.5)	33 (35.5)	0.01[b]*
Received therapy from mental health professional	24 (18.5)	23 (24.7)	0.58[a]
Problems related to alcohol/drugs	0 (0)	1 (1.1)	0.24[a]
Paternal perceptions and mental health			
Dissatisfaction with partner's help	10 (13)	16 (17)	0.12[a]
Dissatisfaction with communication and decision-making	14 (10.8)	21 (22.5)	0.09[a]
Psychopathology	9 (6.9)	17 (18.3)	0.03*[a]
Received therapy from mental health professional	8 (6.2)	11 (11.8)	0.32[a]
Problems related to alcohol/drugs	1 (0.8)	5 (5.4)	0.24[a]
Parents relationship problems			
Parental arguments	88 (67.7)	76 (81.7)	0.03*[a]
Interparental physical violence	9 (6.9)	12 (12.9)	0.32[a]
Involvement of child in arguments or violence	24 (18.5)	25 (26.9)	0.4[a]
Financial Coverage			
Very well	21 (16.2)	17 (18.3)	0.85[a]
Fairly well	88 (67.7)	63 (67.7)	
Poorly	21 (16.2)	13 (14)	

DB, disruptive behavior; [a]chi-square test; [b]fisher's exact test; *p<0.05, **p<0.01, ***p<0.001

Table IV. Comparison of impairment areas between groups, n (%).

Variables	Low DB group n=130	High DB group n=93	p
Parental relationships - mother	21 (16.2)	51 (54.8)	<0.001**[a]
Parental relationships - father	9 (6.9)	31 (33.3)	<0.001**[a]
Sibling relationships- in the home	11 (8.5)	27 (29)	<0.001**[a]
Sibling relationships- out of home	0 (0)	5 (5.4)	0.01*[a]
Cooperative helping	6 (4.6)	20 (21.5)	<0.001**[a]
Daycare/school performance	5 (3.8)	16 (17.2)	0.003*[a]
Suspended from daycare/school	0 (0)	4 (4.3)	0.02*[a]
Daycare provider /teacher relationship	6 (4.6)	13 (14)	0.03*[a]
Peer relationships at daycare/school	12 (9.2)	18 (19.4)	0.09[a]
Play (outside of daycare/school)	9 (6.9)	22 (23.7)	<0.001***[a]
Relationships with adults outside the home or daycare/school	11 (8.5)	15 (16.2)	0.12[a]
Relationships with peers	21 (16.2)	31 (33.3)	0.002*[a]
Ability to act appropriately outside of home or daycare/school	13 (10)	33 (35.5)	<0.001***[a]
Treatment	22 (16.9)	22 (23.7)	0.14[a]
Medication	4 (3.1)	5 (5.4)	0.44[a]

DB, disruptive behavior; [a]chi-square test; *p<0.05, **p<0.01, ***p<0.001

Table V. Comparison of the impact of child's problems on family dynamics, relationships, and other activities between groups, n (%).

Variables	Low DB group n=130	High DB group n=93	p
Negative impact on parent's current partnership			
Some negative effect	8 (13.8)	9 (9.7)	
Severe negative effect	5 (3.8)	12 (12.9)	0.06[a]
Child's problems contributed to marital breakdown	0 (0)	1 (1.1)	
Impact on parent's relationship with other child(ren) in the household			
Less time for other child(ren), but not otherwise affected	10 (7.7)	16 (17.2)	0.07[a]
Worsening of the relationship	1 (0.8)	1 (1.1)	
Impact on the relationship of other child(ren) in the household			
Some conflict	6 (4.6)	13 (14)	0.04*[a]
Major disruption	1 (0.8)	2 (2.2)	
Impact on the behavior of other child(ren) in the household			
Some problems	7 (5.4)	13 (14)	0.05[a]
Negative impact on relationships with other family members	12 (9.3)	22 (23.7)	0.01*[a]
Impact on relationships with friends	13 (10)	17 (18.3)	0.18[a]
Restrictions on family's social activities	13 (10)	27 (29)	0.001**[a]
Restrictions on parents' personal activities	15 (11.6)	25 (26.9)	0.02*[a]
Stigmatization	11 (8.5)	15 (16.2)	0.26[a]

DB, disruptive behavior; [a]chi-square test; *p<0.05, **p<0.01, ***p<0.001

Table VI. Multiple linear regression analysis for children's functionality.

Variables	B	SE	Beta	t	p
Intercept	-1.01	1.09		-0.92	<0.001***
Number of DB symptoms	0.28	0.04	0.43	7.07	<0.001***
Presence of ADHD	2.27	0.2	0.18	3.03	0.003**
Paternal psychopathology	0.09	0.03	0.16	3.07	0.002**
Age of child	0.04	0.02	0.11	1.99	0.04*

ADHD, attention deficit hyperactivity disorder; B, estimated coefficient; DB, disruptive behavior; SE, standard error; *p<0.05, **p<0.01, ***p<0.001

Discussion

The current study investigated the relationship between familial factors, family functioning and disruptive behavior problems in preschool children in a Turkish clinical sample. Our hypothesis was that children exhibiting more behavioral problems were more likely to have parental problems and worse familial functioning than the control group. It was found that spanking with hand, verbal dispraise, and selective negative view of the child were more frequent in the DB group than in the control group. Additionally, although problems such as physical violence between parents were not more frequent, arguments between parents and parental psychopathology were found to be reported more frequently in the DB group. Finally, in the current study, DB symptoms were shown to have a negative impact in several areas on both the child's functioning and the parent's life. We also showed that not only disruptive symptoms but also various factors such as the presence of ADHD, parental psychopathology,

and the age of the child predicted impairment in their functionality.

The first finding of the current study was that sociodemographic characteristics were similar in both groups. Previous research has shown that families of children with ODD/CD are more likely to experience socioeconomic disadvantage, including lower parental educational status.[33] According to the current study, the DB group showed no significant differences compared with the control group. In previous studies conducted in our country, socioeconomic status was associated with DB problems.[34] The difference in our study was attributed to the clinical sample. It was also thought that the similarity in these characteristics may have minimized confounding factor in terms of the results.

Coercive, harsh, and conflictual parenting practices are known risk factors for developing of clinically meaningful DB problems.[35] Consistent with previous studies, we found that spanking by hand, verbal dispraise and selective negative view of the child were more common in the DB group. We also hypothesized that difficulties in parents' marital relationships may affect their parenting and thereby constitute a risk to their child's DBs, as shown in previous studies.[36] However, we did not find any significant differences in parental relationship dissatisfaction. We thought that we did not find a difference between the two groups, because both groups were clinical samples. Additionally, temperamental traits influenced by genetic factors also play a role in conduct disorders, including genetic variants that affect emotional reactivity and social affiliation.[37] Therefore, we may find the impact of environmental factors as more limited.

Parental psychopathology, especially depression, is one of the best known risk factors for child mental health problems.[36] We found that parental psychopathology was more common in both mothers and fathers, consistent with the findings reported in existing literature regarding familial mental health trends. Parental psychopathology appears to be both an important risk factor for DB and a potential area for various interventions.

A mother's negative perception of her child has been examined as a possible risk factor for child conduct problems. However, it was also suggested that the strong associations between parental perceptions and child conduct problems cannot confirm a causal connection between the variables or the direction of any such association if there is a causal link. It is highly likely that child conduct problems also promote negative parental cognitions and vice versa.[38] The cross-sectional structure of our study also does not allow such a casual inference.

When the functioning of these children was evaluated, we showed that although they were at a very early age (mean 45.74 months), DB negatively affected their functioning in many areas, especially in family relationships. While a large body of parenting research exists, fewer works has concentrated on exploring family functioning. In a study conducted with boys aged 11 to 16 years, it was shown that families with children with conduct problems had poorer affective involvement, general family functioning, and more poorly defined family roles than families with typically developing children.[39] To the best of our knowledge, we have not found a study investigating the effect of DB on family functioning in the preschool period. The findings of our study are consistent with those of previous studies in older children.[40]

We have shown that DB has a very negative impact not only on the child's functioning but also on the parents' lives. We have shown that it negatively affects their relationships with other children, other family members, their family social activities, and their personal activities. These factors may contribute to the bidirectional relationship shown in previous studies.[41] Given that both parenting and home environment contribute to the development of DB, exploring the relationship between family functioning and DB in prospective studies could provide

further insight into how the family functions as a whole.

Finally, we showed that the number of DB symptoms, presence of ADHD, paternal psychopathology and the child's age may be predictive factors for functioning. The deterioration in functioning as the number of DB symptoms increased was a generally anticipated result. ADHD and ODD frequently co-occur during preschool years [42], and there is a correlation between the symptoms of these two disorders at this developmental stage.[43] It is also known that ADHD affects the functioning of both children and their families through many mechanisms.[36] Therefore, when evaluating and monitoring a child with one of these conditions, the effect on functionality should not be ignored.

A surprising finding of the study was that maternal psychopathology had no predictive effect on functioning, while only the father's psychopathology had an effect. A different pattern for mothers and fathers has been shown in an ADHD study, although the study reported findings opposite to our findings.[25] We thought that the reason for this might be that fathers had more severe disorders compared to mothers. Additionally, similar to the disruptive problems seen in children, the father may also have issues related to emotional dysregulation, which could affect the functioning of both the family and the child. Similarly, some of the previous research suggested that fathers' psychological health has a significant impact on children's externalizing behaviors especially, and fathers play a crucial role in shaping their children's development.[36] It would be useful to perform a detailed assessment of the psychopathologies of the parents in order to make sense of this relationship.

Follow-up and evaluation of these patients will continue. However, even in this form, the findings of our study have important practical implications for family assessments and interventions. First, interventions that focus solely on parents or children may have limited effectiveness in breaking the feedback loop between poor parenting styles, family functioning, and children's disruptive behaviors. Second, both parents appear to be significantly impacted by their children's disruptive problems, so family-based interventions should involve both parents and address their functioning. Third, early intervention for young children is crucial, as our findings show clear and severe impairments in children around the age of 4 years.

There are several limitations that should be noted. First, in this article, preliminary findings are presented cross-sectionally. This prevents the establishment of a causal relationship in the child-parent relationship loop. Second, the study relied largely on PAPA validity and reliability study variables, future research is needed to replicate the findings using multimethod assessment. Third, in the present study, we did not have detailed information about the parents' psychopathology. Future studies should also use collateral information to assess parent psychopathology. Fourth, although a longitudinal design provides stronger support for a causal link than a cross-sectional design, it is important to consider potential confounding variables. Fifth, this sample included only two-parent families, which limits generalizability. Finally, the study sample is a clinical sample and many other psychopathologies may be confounding factors.

Acknowledgements

The authors would like to express their sincere gratitude to all of the participating families as well as the full staff of resident doctors at the Child Psychiatry Department at Ankara University for their contributions to this study.

Ethical approval

The study was approved by Ankara University Ethics Committee (date: 10.10.2019, number: İ4-151-19).

Author contribution

The authors confirm contribution to the paper as follows: Study conception and design: MCU, DBÖ; data collection: MCU, EY, GYE and DBÖ; analysis and interpretation of results: MCU, HKÜ, SAA ; draft manuscript preparation: MCU, EY, DBÖ, HKÜ, SAA. All authors reviewed the results and approved the final version of the manuscript.

Source of funding

The authors declare the study received no funding.

Conflict of interest

The authors declare that there is no conflict of interest.

REFERENCES

1. Vasileva M, Graf RK, Reinelt T, Petermann U, Petermann F. Research review: a meta-analysis of the international prevalence and comorbidity of mental disorders in children between 1 and 7 years. J Child Psychol Psychiatry 2021; 62: 372-381. https://doi.org/10.1111/jcpp.13261
2. Wakschlag LS, Tolan PH, Leventhal BL. Research Review: 'ain't misbehavin': towards a developmentally-specified nosology for preschool disruptive behavior. J Child Psychol Psychiatry 2010; 51: 3-22. https://doi.org/10.1111/j.1469-7610.2009.02184.x
3. Bufferd SJ, Dougherty LR, Carlson GA, Rose S, Klein DN. Psychiatric disorders in preschoolers: continuity from ages 3 to 6. Am J Psychiatry 2012; 169: 1157-1164. https://doi.org/10.1176/appi.ajp.2012.12020268
4. Egger HL, Angold A. Common emotional and behavioral disorders in preschool children: presentation, nosology, and epidemiology. J Child Psychol Psychiatry 2006; 47: 313-337. https://doi.org/10.1111/j.1469-7610.2006.01618.x
5. Brotman MA, Kircanski K, Stringaris A, Pine DS, Leibenluft E. Irritability in Youths: a translational model. Am J Psychiatry 2017; 174: 520-532. https://doi.org/10.1176/appi.ajp.2016.16070839
6. Wakschlag LS, Estabrook R, Petitclerc A, et al. Clinical implications of a dimensional approach: the normal: abnormal spectrum of early irritability. J Am Acad Child Adolesc Psychiatry 2015; 54: 626-634. https://doi.org/10.1016/j.jaac.2015.05.016
7. Kim-Cohen J, Arseneault L, Newcombe R, et al. Five-year predictive validity of DSM-IV conduct disorder research diagnosis in 4(1/2)-5-year-old children. Eur Child Adolesc Psychiatry 2009; 18: 284-291. https://doi.org/10.1007/s00787-008-0729-1
8. Famolare N, Romano JC. The implementation of PEARS training: supporting nurses in non-critical care settings to improve patient outcomes. J Pediatr Nurs 2013; 28: 267-274. https://doi.org/10.1016/j.pedn.2012.05.005
9. Delker BC, Noll LK, Kim HK, Fisher PA. Maternal abuse history and self-regulation difficulties in preadolescence. Child Abuse Negl 2014; 38: 2033-2043. https://doi.org/10.1016/j.chiabu.2014.10.014
10. Shaw DS, Shelleby EC. Early-starting conduct problems: intersection of conduct problems and poverty. Annu Rev Clin Psychol 2014; 10: 503-528. https://doi.org/10.1146/annurev-clinpsy-032813-153650
11. Hosokawa R, Katsura T. Role of parenting style in children's behavioral problems through the transition from Preschool to elementary school according to gender in Japan. Int J Environ Res Public Health 2018; 16: 21. https://doi.org/10.3390/ijerph16010021
12. Kuppens S, Ceulemans E. Parenting Styles: a closer look at a well-known concept. J Child Fam Stud 2019; 28: 168-181. https://doi.org/10.1007/s10826-018-1242-x
13. Guo Y, Zhang YQ, Wu CA, et al. Bidirectional associations between parenting styles and conduct problems in Chinese preschool children: the Shenzhen Longhua child cohort study. Psychol Health Med 2022; 27: 2007-2020. https://doi.org/10.1080/13548506.2021.1999994
14. Fowers BJ, Laurenceau JP, Penfield RD, et al. Enhancing relationship quality measurement: the development of the relationship flourishing scale. J Fam Psychol 2016; 30: 997-1007. https://doi.org/10.1037/fam0000263
15. Olson SL, Choe DE, Sameroff AJ. Trajectories of child externalizing problems between ages 3 and 10 years: contributions of children's early effortful control, theory of mind, and parenting experiences. Dev Psychopathol 2017; 29: 1333-1351. https://doi.org/10.1017/S095457941700030X

16. O'Connor M, Slopen N, Becares L, et al. Inequalities in the distribution of childhood adversity from birth to 11 Years. Acad Pediatr 2020; 20: 609-618. https://doi.org/10.1016/j.acap.2019.12.004

17. Roskam I. Externalizing behavior from early childhood to adolescence: prediction from inhibition, language, parenting, and attachment. Dev Psychopathol 2019; 31: 587-599. https://doi.org/10.1017/S0954579418000135

18. Kılıç C, Yüksel Doğan R, Metin EN. Exploring the relationship between Turkish mothers' parenting and psychological well-being in early childhood: the role of child emotion regulation and dysregulation. Behav Sci (Basel) 2024; 14: 426. https://doi.org/10.3390/bs14060426

19. Cantekin D, Akduman GG. The relationship between mothers' attitudes towards child rearing and their children's emotion management skills. Alpha Psychiatry 2020; 21: 87-92. https://doi.org/10.5455/apd.47631

20. Bell RQ. A reinterpretation of the direction of effects in studies of socialization. Psychol Rev 1968; 75: 81-95. https://doi.org/10.1037/h0025583

21. Hinshaw SP, Beauchaine TP. The developmental psychopathology perspective on externalizing behavior dimensions and externalizing disorders. The Oxford Handbook of Externalizing Spectrum Disorders. New York: Oxford University Press; 2015. 90-104. https://doi.org/10.1093/oxfordhb/9780199324675.013.21

22. Larsson H, Viding E, Rijsdijk FV, Plomin R. Relationships between parental negativity and childhood antisocial behavior over time: a bidirectional effects model in a longitudinal genetically informative design. J Abnorm Child Psychol 2008; 36: 633-645. https://doi.org/10.1007/s10802-007-9151-2

23. Lee EH, Zhou Q, Eisenberg N, Wang Y. Bidirectional relations between temperament and parenting styles in Chinese children. Int J Behav Dev 2013; 37: 57-67. https://doi.org/10.1177/0165025412460795

24. Rolon-Arroyo B, Arnold DH, Breaux RP, Harvey EA. Reciprocal relations between parenting behaviors and conduct disorder symptoms in preschool children. Child Psychiatry Hum Dev 2018; 49: 786-799. https://doi.org/10.1007/s10578-018-0794-8

25. Breaux RP, Harvey EA. A longitudinal study of the relation between family functioning and preschool ADHD symptoms. J Clin Child Adolesc Psychol 2019; 48: 749-764. https://doi.org/10.1080/15374416.2018.1437737

26. Margari F, Craig F, Petruzzelli MG, et al. Parents psychopathology of children with attention deficit hyperactivity disorder. Res Dev Disabil 2013; 34: 1036-1043. https://doi.org/10.1016/j.ridd.2012.12.001

27. Achenbach TM, Rescorla L. Manual for the ASEBA preschool forms & profiles. Burlington: university of Vermont research center for children, youth and families; 2000.

28. Erol N, Şimşek Z. Türkiye ruh sağlığı profili: çocuk ve gençlerde yeterlik alanları ile sorun davranışların dağılımı. Türkiye ruh sağlığı profili: ön rapor. 1997; 12-33.

29. Egger HL, Angold A. The preschool age psychiatric assessment (PAPA): a structured parent interview for diagnosing psychiatric disorders in preschool children. Handbook of infant, toddler, and preschool mental health assessment. New York: Oxford University Press; 2004. 223-243.

30. Hassanzadeh M, Malek A, Norouzi S, et al. Psychometric properties of the Persian version of preschool age psychiatric assessment (PAPA) for attention-deficit/hyperactivity disorder: based on DSM-5. Asian J Psychiatr 2021; 58: 102618. https://doi.org/10.1016/j.ajp.2021.102618

31. Egger HL, Erkanli A, Keeler G, et al. Test-retest reliability of the preschool age psychiatric assessment (PAPA). J Am Acad Child Adolesc Psychiatry 2006; 45: 538-549. https://doi.org/10.1097/01.chi.0000205705.71194.b8

32. Oztop DB, Efendi GY, Cikili Uytun M, et al. The validity and reliability of preschool age psychiatric assessment (PAPA) in Turkish population. Asian J Psychiatr 2024; 91: 103837. https://doi.org/10.1016/j.ajp.2023.103837

33. Murray J, Farrington DP. Risk factors for conduct disorder and delinquency: key findings from longitudinal studies. Can J Psychiatry 2010; 55: 633-642. https://doi.org/10.1177/070674371005501003

34. Senol V, Unalan D, Akca RP, Basturk M. Prevalence of attention-deficit/hyperactivity and other disruptive behaviour disorder symptoms among primary school-age children in Kayseri, Turkey. J Int Med Res 2018; 46: 122-134. https://doi.org/10.1177/0300060517712865

35. Waller R, Gardner F, Hyde LW, et al. Do harsh and positive parenting predict parent reports of deceitful-callous behavior in early childhood? J Child Psychol Psychiatry 2012; 53: 946-953. https://doi.org/10.1111/j.1469-7610.2012.02550.x

36. Ramchandani P, Psychogiou L. Paternal psychiatric disorders and children's psychosocial development. Lancet 2009; 374: 646-653. https://doi.org/10.1016/S0140-6736(09)60238-5

37. Viding E, McCrory E. Disruptive behavior disorders: the challenge of delineating mechanisms in the face of heterogeneity. Am J Psychiatry 2020; 177: 811-817. https://doi.org/10.1176/appi.ajp.2020.20070998

38. Jefferis PG, Oliver C. Associations between maternal childrearing cognitions and conduct problems in young children. Clin Child Psychol Psychiatry 2006; 11: 83-102. https://doi.org/10.1177/1359104506059125

39. Roberts R, McCrory E, Joffe H, De Lima N, Viding E. Living with conduct problem youth: family functioning and parental perceptions of their child. Eur Child Adolesc Psychiatry 2018; 27: 595-604. https://doi.org/10.1007/s00787-017-1088-6

40. Pardini DA, Fite PJ, Burke JD. Bidirectional associations between parenting practices and conduct problems in boys from childhood to adolescence: the moderating effect of age and African-American ethnicity. J Abnorm Child Psychol 2008; 36: 647-662. https://doi.org/10.1007/s10802-007-9162-z

41. Riddle MA, Yershova K, Lazzaretto D, et al. The Preschool attention-deficit/hyperactivity disorder treatment study (PATS) 6-year follow-up. J Am Acad Child Adolesc Psychiatry 2013; 52: 264-278.e2. https://doi.org/10.1016/j.jaac.2012.12.007

42. Harvey EA, Friedman-Weieneth JL, Goldstein LH, Sherman AH. Examining subtypes of behavior problems among 3-year-old children, Part I: investigating validity of subtypes and biological risk-factors. J Abnorm Child Psychol 2007; 35: 97-110. https://doi.org/10.1007/s10802-006-9087-y

43. Bendiksen B, Svensson E, Aase H, et al. Co-occurrence of ODD and CD in Preschool Children with symptoms of ADHD. J Atten Disord 2017; 21: 741-752. https://doi.org/10.1177/1087054714538655