

# Children's Health Care

## Associate Editors

Publish  
with us

[Submit an  
article](#) ▼

[About this  
journal](#) ▼

Explore

[Browse all  
articles & issues](#)  
▼

 [Latest  
issue](#)

Subscribe

[Alerts &  
RSS feed](#) ▼

[+ Purchase a  
subscription](#)

## Editorial Board

**Chelsea M. Ale, Ph.D** - *Mayo Clinic*

**Keith Allen, Ph.D.** - *University of Nebraska Medical Center*

**Jason Allen, Ph.D** - *Texas Tech University*

**Frank Andrasik, Ph.D.** - *University of Memphis*

**Bridget Armstrong, Ph.D** - *University of South Carolina*

**F. Daniel Armstrong, Ph.D., ABPP** - *University of Miami School of Medicine*

**Brandon Aylward, Ph.D** - *Emory University School of Medicine*

**Daniel M. Bagner, Ph.D, ABPP** - *Florida International University*

**Kristen Grabill Beniot, Ph.D** - *Brown University Medical School and Rhode Island Hospital*

**William Black, Ph.D** - *University of Kansas Medical Center*

**Ronald L. Blount, Ph.D** - *University of Georgia*

**Richard E. Boles, Ph.D** - *University of Colorado Anschutz Medical Campus*

**Ronald T. Brown, Ph.D** - *University of Las Vegas*

**Joseph P. Bush, Ph.D.** - *Fielding Graduate University*

**Natasha Burke, Ph.D** - *Fordham University*

**Kimberly Canter, Ph.D** - *Nemours*

**July Carmody, Ph.D** - *Children's Hospital of Boston*

**John M. Chaney, PhD** - *Oklahoma State University*

**Ashley Clawson, Ph.D** - *Oklahoma State University*

**Shayna Coburn Ph.D** - *Children's National Hospital*

**Lindsey Cohen, Ph.D.** - *Georgia State University*

**Marc Collin. M.D.** - *Case Western Reserve University School of Medicine*

**Katrina Cordts, Ph.D** - *University of Nebraska Medical Center*

**Lynnda Dahlquist, Ph.D.** - *University of Maryland-Baltimore County*

**Molly Davis, Ph.D** - *University of Pennsylvania*

**Katie Devine, Ph.D** - *Cancer Institute of New Jersey*

**Cody Dodd, Ph.D** - *University of Texas Medical Branch at Galveston*

**Cyd Eaton - Ph.D** - *Johns Hopkins University*

# Children's Health Care

**Amy Goetz, Ph.D** - *Baylor College of Medicine*

Publish  
with us

Submit an  
article ▼

About this  
journal ▼

Explore

Browse all  
articles & issues  
▼

 Latest  
issue

Subscribe

Alerts &  
RSS feed ▼

+ Purchase a  
subscription

**Chantelle Hart, Ph.D** - *Temple University*

**David Hecklet, Ph.D** - *Dell Children's Medical Center*

**John Herrington, Ph.D** - *Children's Hospital of Philadelphia*

**Aimee Hildenbrand, Ph.D** - *Nemours*

**Chad Jensen, Ph.D** - *Brigham Young University*

**Sara Sytsma Jordan, Ph.D** - *University of Southern Mississippi*

**Elizabeth Keys, Ph.D** - *Dalhousie University*

**Michael J. Larson, Ph.D** - *Brigham Young University*

**Kathleen Lemanek, PhD** - *Nationwide Children's Hospital*

**Adam Lewin, Ph.D, ABPP** - *University of South Florida College of Medicine*

**Brenna Maddox, Ph.D** - *University of North Carolina*

**Stephanie Marcy, Ph.D** - *Children's Hospital of Los Angeles*

**Jennifer Mautone, Ph.D** - *Children's Hospital of Philadelphia*

**Sarah Mire, Ph.D** - *University of Houston*

**Melisa Moore, Ph.D** - *Children's Hospital of Philadelphia*

**Julia Parrish-Morris Ph.D** - *Children's Hospital of Philadelphia*

**Larry L. Mullins, Ph.D.** - *Oklahoma State University*

**Andrea Farkas Patenaude, Ph.D.** - *Dana- Farber Cancer Institute*

**Sean Phipps, Ph.D.** - *St. Jude Children's Research Hospital*

**Sharon G. Portwood, J.D., Ph.D.** - *University of North Carolina Charlotte*

**Scott W. Powers. Ph.D., ABPP** - *University of Cincinnati College of Medicine*

**Bonney Reed, Ph.D** - *Emory University*

**Cara B. Reeves, Ph.D** - *Greenville Health System Children's Hospital*

**Michael C. Roberts, Ph.D, ABPP** - *University of Kansas*

**Amy Sato, Ph.D** - *Kent State University*

**Kirti Saxena, MD** - *Baylor College of Medicine*

**Nicole Schneider, PsyD, ABPP** - *Texas Children's Hospital*

**Katianne Sharp, Ph.D** - *St. Jude Children's Research Hospital*

**Alan H. Silverman, Ph.D** - *Medical College of Wisconsin*

**Susan J. Simonian, Ph.D., ABPP** - *College of Charleston*

# Children's Health Care

**Children's Health Care** is abstracted/indexed in: Applied Social Sciences Index and

Publish  
with us

Submit an  
article ▼

About this  
journal ▼

Explore

Browse all  
articles & issues  
▼



Latest  
issue

Subscribe

Alerts &  
RSS feed ▼

+ Purchase a  
subscription

Resources; Family Index Database; IFI/Plenum: Mental Health Abstracts Database; ISI: Current Contents/Social & Behavioral Sciences, Social Sciences Citation Index, Social SciSearch, Journal Citation Reports Social Science; PsycINFO/Psychological Abstracts; Scopus; and Sociological Abstracts.

Taylor & Francis make every effort to ensure the accuracy of all the information (the "Content") contained in our publications. However, Taylor & Francis, our agents (including the editor, any member of the editorial team or editorial board, and any guest editors), and our licensors, make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor & Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to, or arising out of the use of the Content. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>.

## Publication history

### Currently known as:

Children's Health Care (1981 - current)

### Formerly known as

Journal of the Association for the Care of Children in Hospitals (1973 - 1981)



NEW

The power of the Web of Science™ on your mobile device, wherever inspiration strikes.

Dismiss

Learn More

### Already have a manuscript?

Use our Manuscript Matcher to find the best relevant journals!

Find a Match

## Refine Your Search Results

Children's Health Care

Search

Sort By: Relevancy



### Filters

Clear All

Web of Science Coverage

Open Access

Category

Country / Region

Language

Frequency

Journal Citation Reports

## Search Results

Found 1,775 results (Page 1)

Share These Results

### Did you mean this journal?

#### CHILDRENS HEALTH CARE

Publisher: ROUTLEDGE JOURNALS, TAYLOR & FRANCIS LTD , 2-4 PARK SQUARE, MILTON PARK, ABINGDON, ENGLAND, OXON, OX14 4RN

ISSN / eISSN: 0273-9615 / 1532-6888

Web of Science Core Collection: Social Sciences Citation Index

Additional Web of Science Indexes: Current Contents Social And Behavioral Sciences | Essential Science Indicators

Share This Journal

View profile page

\* Requires free login.

## Other Possible Matches

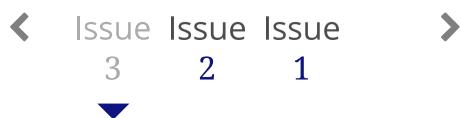
#### AFRICAN JOURNAL OF PRIMARY HEALTH CARE & FAMILY MEDICINE

OPEN ACCESS

Publisher: AOSIS , Postnet Suite 110, Private Bag x 19, Durbanville, South Africa, 7550

# Children's Health Care, Volume 51, Issue 3 (2022)

[See all volumes and issues](#)



Browse by section (All) | ▾



Display order (Default) | ▾



Download citations



Download PDFs

## Research Article



Article

[Psychometric evaluation of the Turkish adaptation of the Epworth sleepiness scale for children and adolescents >](#)

Sabide Duygu Uygun & Nedime Tuğçe Bilbay

Pages: 235-249

**Published online:** 06 Dec 2021

103

Views

0

CrossRef citations

0

Altmetric



Article

[Medical home access among children of parents in same-sex couples >](#)

Hannah Morris, Dmitry Tumin, Rhiannon A. Kroeger & Cierra Buckman

Pages: 250-262


**Published online:** 03 Dec 2021

---

16	0	0
Views	CrossRef citations	Altmetric

---

## Article

 [Intolerance of uncertainty and protective parenting: the mediating role of maternal appraisals and the moderating role of child health status >](#)

Emily M. Steiner & Lynnda Dahlquist

Pages: 263-284

**Published online:** 04 Dec 2021

---

101	0	0
Views	CrossRef citations	Altmetric

---

## Article

 [A medical home for children in foster care reduces expenditures >](#)

Brian S. Gannon, Abbey Gregg, Hui Wang, Mallory Enzor Marshall, Lea G. Yerby, Caroline Jenkins & Jason M. Parton

Pages: 285-299

**Published online:** 16 Feb 2022

---

59	0	1
Views	CrossRef citations	Altmetric

---

## Article

 [The impact of COVID-19 on rural treatment-seeking families with children with overweight or obesity >](#)

Bethany Forseth, Kelsey M. Dean, Megan Murray, Haley J Killian, Dana Bakula, Rebecca E. Swinburn Romine, Kandace Fleming, Christie A Befort, Keisha M. England, Rohit Bhagat, Maheen Bangash, Meredith L. Dreyer Gillette, Eve-Lynn Nelson & Ann M Davis

Pages: 300-315

**Published online:** 12 Mar 2022

---

70	0	1
Views	CrossRef citations	Altmetric

---



Article

[Symptoms, impairment and treatment needs among youth with orthostatic intolerance in a secondary care setting >](#)

Kristen G. Benito, Amrita Ramanathan, Debra Lobato, Barbara Jandasek, Erin Mamaril, Haley McBride & Lloyd R. Feit

Pages: 316-335

**Published online:** 23 Mar 2022

24	0	0
Views	CrossRef citations	Altmetric



Article

[Evidence of the relationship between attention deficit/hyperactivity disorder \(ADHD\) and emotional abuse in a sample of preschool children >](#)

Sanem Nemmezi Karaca, Ayla Uzun Cicek, Cansu Mercan Isik, Mehmet Kanak & Gulbahtiyar Demirel

Pages: 336-353

**Published online:** 05 May 2022

81	0	0
Views	CrossRef citations	Altmetric



## Latest articles

Latest	Open access	Most read	Most cited
<p><a href="#">Longitudinal effect of prenatal polydrug use and birthweight status on pediatric growth &gt;</a></p> <p>Sitara M. Weerakoon et al.</p> <p>Article   Published online: 2 Jun 2022</p>			
<p><a href="#">Parent coping, emotion socialization beliefs, and sibling relationship quality in pediatric cancer &gt;</a></p> <p>Melissa A. Faith et al.</p>			



## Evidence of the relationship between attention deficit/hyperactivity disorder (ADHD) and emotional abuse in a sample of preschool children

Sanem Nemmezi Karaca, Ayla Uzun Cicek, Cansu Mercan Isik, Mehmet Kanak & Gulbahtiyar Demirel

To cite this article: Sanem Nemmezi Karaca, Ayla Uzun Cicek, Cansu Mercan Isik, Mehmet Kanak & Gulbahtiyar Demirel (2022) Evidence of the relationship between attention deficit/hyperactivity disorder (ADHD) and emotional abuse in a sample of preschool children, Children's Health Care, 51:3, 336-353, DOI: [10.1080/02739615.2022.2072311](https://doi.org/10.1080/02739615.2022.2072311)

To link to this article: <https://doi.org/10.1080/02739615.2022.2072311>



Published online: 05 May 2022.



Submit your article to this journal [↗](#)



Article views: 81



View related articles [↗](#)



View Crossmark data [↗](#)





## Evidence of the relationship between attention deficit/hyperactivity disorder (ADHD) and emotional abuse in a sample of preschool children

Sanem Nemmezi Karaca<sup>a</sup>, Ayla Uzun Cicek<sup>b</sup>, Cansu Mercan Isik<sup>c</sup>, Mehmet Kanak<sup>d</sup>, and **Gulbahtiyar Demirel<sup>e</sup>**

<sup>a</sup>Department of Family Medicine, Faculty of Medicine, Cumhuriyet University, Sivas, Turkey;

<sup>b</sup>Department of Child and Adolescent Psychiatry, Faculty of Medicine, Cumhuriyet University, Sivas, Turkey; <sup>c</sup>Department of Preschool Education, Faculty of Education, Cumhuriyet University, Sivas, Turkey; <sup>d</sup>SBU Diyarbakir Gazi Yaşargil Education Research Hospital, Child and Adolescent Psychiatry Outpatient Clinic, Diyarbakir, Turkey; <sup>e</sup>Department of Midwifery, Faculty of Health Sciences, Cumhuriyet University, Sivas, Turkey

### ABSTRACT

This study has aimed to evaluate the relationship between preschool attention deficit/hyperactivity disorder (ADHD) and emotional abuse. Fifty-six children with ADHD aged 5 and 6 years and their mothers, and sixty-five children without a diagnosis of ADHD and their mothers have been included in this study. ADHD symptomatology and emotional abuse potential of mothers have been assessed by the Conners' Parent Rating Scale-Revised-Short Form (CPRS-RS) and the Scale for Emotional Abuse Potential of Parents with Children Aged 3 to 6 (SEAPP-C3-6) respectively. Mothers of children with ADHD had significantly higher causal sub-dimension scores of SEAPP-C3-6 than that of the mothers of the controls. The higher emotional abuse potential scores of mothers have been significantly associated with higher Conners scores, male gender, disruptive behavior disorders comorbidity, low income and parental education level and parental psychopathology. This study has revealed that preschool ADHD is an important risk factor for emotional abuse. Clinicians shall be aware of the emotional abuse potential among children with ADHD.

### Introduction

Attention deficit/hyperactivity disorder (ADHD) is a childhood-onset neuropsychiatric disorder and can be described as a combination of persistent problems, such as difficulty sustaining attention, and/or hyperactive-impulsive behavior (American Psychiatric Association (APA), 2013). It becomes apparent in the preschool and early school years. Its worldwide prevalence is now reported between 1% and 18% (Bradshaw & Kamal, 2017; Sayal, Prasad, Daley, Ford, & Coghill, 2018). The great variability in the reported prevalence may be attributable to the heterogeneity in study settings and methodological

**CONTACT** Ayla Uzun Cicek  [dr.f.ayla@hotmail.com](mailto:dr.f.ayla@hotmail.com) 

differences, including data sources (e.g., parent-, teacher-, or child-based), the criteria used to identify ADHD, sampling differences (e.g., different age ranges, stratified cluster sampling, school sampling, clinical sampling), different scales used, and sociodemographic and cultural differences. As for the average prevalence of ADHD in preschool children, several epidemiological studies including children aged 3 to 6 found out that the prevalence value ranges from 1.9% to 3.8% (Canals, Morales-Hidalgo, Jané, & Domènech, 2018; Danielson et al., 2018).

Although there are various definitions of abuse, in its most general definition, it is child abuse where any act or inaction slows down and/or prevents the child's optimal development. The emotional abuse prevents and suppresses the psychological development of the child with attitudes such as rejection, humiliation, intimidation, emotional non-response, and by using the child for their own interests (Kumari, 2020; World Health Organization (WHO), 2017). The rates of childhood emotional abuse vary widely around the world. According to the results of a more recent study, childhood emotional abuse have been observed at a rate of 33.81%-35.03% and it is the most prevalent type of adverse childhood experience (Merrick, Ford, Ports, & Guinn, 2018). Recent data demonstrate that the rates of the worldwide prevalence of emotional abuse and neglect are 36% and 16%, respectively (WHO, 2017).

Many risk factors related to parent, child, and sociocultural characteristics have been described as child emotional abuse or as significant predictors of emotional abuse to facilitate the writing process. Hyperactivity, disruptive and internalizing disorders, sleep disturbances, appetite and eating problems, enuresis, and school failure among child-related characteristics are associated with vulnerability to emotional abuse. Children with disabilities (physical and/or intellectual disability), younger children, and children having difficult temperaments are also at higher risk (Derakhshanpour, Shahini, Hajebi, Vakili, & Heydari Yazdi, 2017; Mulder, Kuiper, van der Put, Stams, & Assink, 2018; Walsh, McCartney, Smith, & Armour, 2019). Studies in the field of children's mental health increasingly emphasize the relationship between ADHD diagnosis and the risk of abuse. There is evidence that children with ADHD are at a strikingly higher risk of abuse in comparison with that of normal children (Evinç et al., 2014; Gul & Gurkan, 2018; Hadianfard, 2014; Ouyang, Fang, Mercy, Perou, & Grosse, 2008; Sari Gokten, Saday Duman, Soyulu, & Uzun, 2016).

Children with ADHD exhibit substantial impairments in many functional domains including externalizing difficulties, internalizing problems, peer relationship and social relationship problems, academic performance problems (APA, 2013; Briscoe-Smith & Hinshaw, 2006). These symptoms are also risk factors for being a victim of abusive disciplinary attitudes which are defined as the behaviors and tactics (e.g., hitting, beating, pinching, swearing, or insulting) that are applied to discipline the child by causing psychological and physical

harm to the child and that are applied more harshly and frequently (Briscoe-Smith & Hinshaw, 2006). Moreover, the risk of exposure to abuse increases further if the child with ADHD has combinations of temperament problems and/or comorbidity of disruptive behavior disorders (Briscoe-Smith & Hinshaw, 2006; Hadianfard, 2014). Indeed, numerous studies reported that those diagnosed with ADHD are at substantial risk for abuse. A study revealed that children diagnosed with ADHD are subject to significantly more abuse than that of non-ADHD children, and the frequency of emotional neglect and abuse is higher in children with ADHD than that of other maltreatments (Hadianfard, 2014). Researchers found out that approximately 60% of these children were neglected and 35% of those were emotionally abused (Hadianfard, 2014). A more recent study has found out that 96.2% of children with ADHD were exposed to physical abuse and 87.5% of the same were exposed to emotional abuse (Sari Gokten et al., 2016). Although there has been an increasing interest in this field, previous studies on the relationship between ADHD and abuse were generally conducted in school-age children and adolescent-young adult individuals, such studies did not focus primarily on emotional abuse and did not include preschool children. To the best of our knowledge, no study until now has focused specifically on the relationship between ADHD and emotional abuse in preschool years. Therefore, the aim of this study is to examine whether there is a relationship between pre-school ADHD and emotional abuse.

## Methods

### *Participants*

Fifty-six children with ADHD aged 60–73 months and their mothers, by matching these in terms of age and gender with sixty-five non-ADHD children with no history of mental health problems and their mothers have participated in the study. The ADHD sample has recruited through a series of consecutive admissions to the Child and Adolescent Psychiatry Outpatient Clinic. The control group has been sampled among children without any mental health problems who were applied to the pediatrics clinic of the hospital for the healthy child follow up. ADHD and other psychiatric disorders have been diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria (APA, 2013). Since the development of the attachment process may be directly affected, in order to both reduce the effect of confounding factors and ensure equal conditions among the participants, only children up to 3 years of age whose primary caregiver was their own mother and their mothers have been included in the study. Also, children with a diagnosis of intellectual and developmental disabilities, autism spectrum disorder, primary sensorimotor and/or neurological disorder, which are conditions known as child-related risk factors for child maltreatment (Mulder

et al., 2018), have been excluded from the study. Mothers, who conceived twins via assisted reproduction, older than 45 years and younger than 18 years, and with severe psychiatric disorders (schizophrenia, bipolar disorder, mental retardation, etc.), and mothers, who adopted children, have been excluded from the study since they could possibly affect abuse rates (Mulder et al., 2018). Written informed consent has been obtained from mothers prior to their inclusion in the study. The study has been approved by the local ethical committee board (Date: 23.09.2020, No: 2020-09/02).

### ***Clinical assessment and data collection tools***

#### ***Sociodemographic data form***

Sociodemographic information and clinical data have been obtained with a questionnaire specifically created by the researchers. This questionnaire included questions about age, gender, place of residence, family characteristics, and child's medical and developmental history. In addition to this, the mother's and father's own histories of emotional abuse, and physical abuse have been also noted. These parameters have been evaluated by the researchers during interviews with children and both parents.

#### ***Conners' parent rating scale-revised-short form (CPRS-RS)***

The CPRS-RS is a standard instrument for the assessment of ADHD and consists of 27 questions on which the parents report the frequency of symptoms. The form is a four-point Likert scale, ranging from 0 (not true at all) to 3 (very much true), and consists of four subscales including Oppositional Subscale, Hyperactivity Subscale, Inattention Subscale, and ADHD Index (Kumar & Steer, 2003). Higher scores indicate worse problematic behaviors in each specific CPRS-RS category. Kaner et al. reported that the CPRS-RS was reliable and valid for the Turkish community (Kaner, Buyukozturk, & Iseri, 2013).

#### ***The scale for emotional abuse potential of parents with children aged 3 to 6 (SEAPP-C3-6)***

This scale, which aims to examine the emotional abuse potential of parents, was developed by Pekdogan and Kanak (Pekdoğan & Kanak, 2019). This scale consists of 50 items and two sub-dimensions. The first sub-dimension (causal) includes of 29 items, while the second sub-dimension (preventive) includes of 21 items. The internal consistency coefficient obtained for the entire scale is .97, and the scale is valid and reliable appraising the emotional abuse potential of parents. This scale has been applied only to mothers in this study.

### **Statistical analysis**

For statistical analysis, IBM SPSS 23.0 (SPSS Inc., Chicago, IL, USA) software has been performed. Kolmogorov–Smirnov test has been used for testing the normality distribution. It means that standard deviations, and frequencies have been calculated for sample characteristics, and differences have been tested by using the chi-squared test and the Mann–Whitney U test. Spearman’s correlation coefficient has been used for correlation analyses of the variables. Cohen’s d and eta squared ( $\eta^2$ ) method have been used to calculate the effect sizes and associated 95% Confidence Intervals (CIs). A p-value of  $<.05$  has been considered to be statistically significant.

## **Results**

### ***Socio-demographic and familial characteristics of participants***

The participants’ characteristics are presented in [Table 1](#). Among the children in the ADHD group, 43 (76.8%) were boys, 13 (23.2%) were girls and the mean age was  $65.95 \pm 2.59$  months, while 47 (72.3%) of the children in the control group were boys, 18 (27.7%) were girls and the mean age was  $65.75 \pm 2.91$  months. There has been no significant difference between the two groups in terms of age and gender. The two groups have not also differed significantly on any sociodemographic variable.

### ***Care and developmental characteristics of participants***

48.2% ( $n = 27$ ) of those in the ADHD group and 43.1% ( $n = 28$ ) of those in the control group were attended preschool education. There has been no significant difference between the ADHD group and the control group, in terms of being an unwanted child status, attendance of preschool education, and child’s appetite status. On the other hand, the percentage of children with sleep disturbances in the ADHD group has been significantly higher than that of the control group (41.1% vs. 20%,  $p = .011$ ). The care and developmental characteristics of participants are indicated in [Table 2](#).

### ***History of abuse and neglect of the participants’ parents, and the scores of the SEAPP-C3-6 and the scores of the CPRS-RS***

No significant differences have been observed in terms of the history of the mothers’ emotional neglect-abuse and physical abuse between the two groups (both p values  $> .05$ ). However, the fathers of children in the ADHD group had a significantly higher percentage of both emotional neglect-abuse and physical abuse history than that of the fathers of the children in the control group ( $p = .010$ ,  $p = .033$ , respectively). As for the mean scores of mothers’ SEAPP-C3-6, the causal

**Table 1.** Socio-demographic and familial characteristics of participants.

	ADHD group (n = 56)	Control Group (n = 65)	p-value*	Effect size (95%CI)
Age (mean-months $\pm$ SD)	65.95 $\pm$ 2.59	65.75 $\pm$ 2.91	.976	0.07 (–0.29, 0.43)
Gender (n,%)			.574	
Male	43 (76.8)	47 (72.3)		
Female	13 (23.2)	18 (27.7)		
Place of residence (n,%)			.792	
Urban	40 (71.4)	16 (28.6)		
Rural	45 (69.2)	20 (30.8)		
Family income level (n,%) <sup>†</sup>			.491	
Minimum wage/less than minimum wage	25 (44.6)	25 (38.5)		
Above the minimum wage	31 (55.4)	40 (61.5)		
Family type (n,%)			.991	
Nuclear	36 (64.3)	41 (63.1)		
Single-parent (divorced, separated, or death)	5 (8.9)	6 (9.2)		
Extended	15 (26.8)	18 (27.7)		
Age of the mother (mean-years $\pm$ SD)	29.21 $\pm$ 4.36	28.94 $\pm$ 4.32	.667	0.06 (–0.29, 0.42)
Maternal education level (n,%)			.539	
Primary education and lower	8 (14.3)	6 (9.2)		
High school level	32 (57.1)	43 (66.2)		
University level	16 (28.6)	16 (24.6)		
The health status of the mother (n,%)			.943	
Healthy	45 (80.4)	51 (78.4)		
Predominantly psychiatric disorder(s)	6 (10.7)	7 (10.8)		
Predominantly medical illness(es)	5 (8.9)	7 (10.8)		
Age of the father (mean-years $\pm$ SD)	31.54 $\pm$ 4.95	31.72 $\pm$ 4.71	.663	–0.04 (–0.4, 0.3)
Paternal education level (n,%)			.943	
Primary education and lower	4 (7.1)	5 (7.7)		
High school level	37 (66.1)	41 (63.1)		
University level	15 (26.8)	19 (29.2)		
The health status of the father (n,%)			.409	
Healthy	43 (76.8)	56 (86.2)		
Predominantly psychiatric disorder(s)	9 (16.1)	6 (9.2)		
Predominantly medical illness(es)	4 (7.1)	3 (4.6)		
Number of siblings (n%)			.747	
0	12 (21.4)	13 (20.0)		
1	35 (62.5)	38 (58.5)		
2	9 (16.1)	14 (21.5)		
Order of sibling (n%)			.214	
1	31 (55.4)	40 (61.5)		
2	21 (37.5)	16 (24.6)		
3+ (3 and above)	4 (7.1)	9 (13.8)		
Domestic conflict (n, %)			.729	
Yes	18 (32.1)	19 (29.2)		
No	38 (67.9)	46 (70.8)		

\*Data were given as mean  $\pm$  standard deviation or number (%). The chi-square test for categorical variables and the Mann–Whitney U test for continuous variables were employed to test group differences. **Bold font** indicates statistical significance:  $p < .05$ .

<sup>†</sup>The level of income was established by the minimum wage value on the date of the study.

Abbreviations: ADHD: Attention-Deficit/Hyperactivity Disorder; SD: Standard Deviation.

sub-dimension scores of SEAPP-C3-6 of the mothers of the children in the ADHD group have been significantly higher ( $42.89 \pm 6.56$  vs.  $39.14 \pm 4.16$ , effect size: 0.7 [95% CI:0.3, 1.1],  $p = .003$ ), whereas the preventer sub-dimension scores of SEAPP-C3-6 have been significantly lower than that of the mothers of the control children ( $77.68 \pm 9.57$  vs.  $83.83 \pm 9.23$ , effect size:  $-0.6$  [95% CI:–1.0,  $-0.3$ ],  $p < .001$ ). As predicted, the mean scores of all four subscales on the CPRS-RS of

**Table 2.** Care and developmental characteristics of participants.

	ADHD group (n = 56)	Control Group (n = 65)	p-value*
Being an unwanted child (n,%)			.602
Yes	14 (25.0)	19 (29.2)	
No	42 (75.0)	46 (70.8)	
Attendance of preschool education (n,%)			.571
Yes	27 (48.2)	28 (43.1)	
No	29 (51.8)	37 (56.9)	
The child's appetite (n,%)**			.461
Normal	29 (51.8)	38 (58.5)	
Poor or increased appetite	27 (48.2)	27 (41.5)	
Sleep pattern (n,%)**			<b>.011</b>
Regular	33 (58.9)	52 (80.0)	
Irregular	23 (41.1)	13 (20.0)	

\*Data were expressed as number (%). The chi-square test was used to test group differences. **Bold font** indicates statistical significance:  $p < .05$ .

\*\*A standard psychometric test was not used in the measurement of sleep patterns and the child's appetite, it was based on the parents' reports.

Abbreviations: ADHD: Attention-Deficit/Hyperactivity Disorder.

the children in the ADHD group have been significantly higher compared to that of the control group (all  $p$ -values $<.001$ ). Results along with the effect sizes and associated 95% CIs are summarized in [Table 3](#).

When the CPRS-RS scores have been examined as to whether there was a difference between the genders, all other subscales except the inattention subscale, and ADHD Index have been significantly higher in boys (all  $p$ -values $<.001$ ) (data not indicated).

### ***The relationship between socio-demographic, familial characteristics of participants and emotional abuse potentials of parents***

Except for the place of residence, all sociodemographic and familial variables have been significantly associated with the emotional abuse potential of mothers. Comorbid disruptive behavior disorders (conduct disorder/oppositional defiant disorder) in addition to ADHD diagnosis had a significant effect on scores of the SEAPP-C3-6. Accordingly, when the two disorders co-exist, SEAPP-C3-6-causal sub-dimension scores have been significantly higher, while SEAPP-C3-6-preventer sub-dimension scores have been significantly lower (both  $p < .001$ ). The mothers of the children with low family income, the mothers of children with a parent history of emotional neglect-abuse and physical abuse, and mothers experienced violence in the family had significantly higher SEAPP-C3-6-causal sub-dimension mean scores and significantly lower SEAPP-C3-6-preventer sub-dimension mean scores compared to the rest (all  $p$ -values  $<.05$ ). As the education levels of both parents decreased, the SEAPP-C3-6-causal sub-dimension mean scores increased significantly, and the SEAPP-C3-6-preventer sub-dimension mean scores decreased significantly (all  $p$ -values  $<.001$ ). Regarding the relationship

**Table 3.** History of abuse and neglect of the participants' parents, and the scores of SEAPP-C3-6 and the scores of CPRS-RS.

	ADHD group (n = 56)	Control Group (n = 65)	p-value*	Effect size (95%CI)
History of mother's emotional neglect (n,%)**			.959	
Yes	23 (41.1)	27 (41.5)		
No	33 (58.9)	38 (58.5)		
History of mother's physical abuse (n,%)**			.447	
Yes	20 (35.7)	19 (29.2)		
No	36 (64.3)	46 (70.8)		
History of father's emotional neglect (n,%)**			<b>.010</b>	
Yes	32 (57.1)	22 (33.8)		
No	24 (42.9)	43 (66.2)		
History of father's physical abuse (n,%)**			<b>.033</b>	
Yes	26 (46.4)	18 (27.7)		
No	30 (53.6)	47 (72.3)		
SEAPP-C3-6-Causal subdimension scores (mean ± SD)	42.89 ± 6.56	39.14 ± 4.16	<b>.003</b>	0.7 (0.3, 1.1)
SEAPP-C3-6- Preventer subdimension scores (mean ± SD)	77.68 ± 9.57	83.83 ± 9.23	<b>&lt;.001</b>	-0.6 (-1.0, 0.3)
CPRS-RS-Cognitive problems/inattention scores (mean ± SD)	9.36 ± 1.93	7.77 ± 2.24	<b>&lt;.001</b>	0.8 (0.4, 1.1)
CPRS-RS-Hyperactivity scores (mean ± SD)	10.50 ± 3.07	8.48 ± 2.56	<b>&lt;.001</b>	0.7 (0.4, 1.1)
CPRS-RS-Oppositional scores (mean ± SD)	8.23 ± 2.64	6.09 ± 2.25	<b>&lt;.001</b>	0.9 (0.5, 1.3)
CPRS-RS-ADHD index scores	19.86 ± 4.07	16.26 ± 3.96	<b>&lt;.001</b>	0.9 (0.5, 1.3)

\*Data were given as mean ± standard deviation or number (%). The chi-square test for categorical variables and the Mann-Whitney U test for continuous variables were used to test group differences. **Bold font** indicates statistical significance:  $p < .05$ .

\*\*A standard psychometric test was not used in the measurement of abuse and neglect, it was based on the parents' reports.

*Abbreviations:* ADHD: Attention-Deficit/Hyperactivity Disorder; CPRS-RS: Conners' Parent Rating Scale-Revised Short Form; SEAPP-C3-6: Scale for Emotional Abuse Potential of Parents with Children Aged 3 to 6; SD: Standard Deviation.

between parental health status and SEAPP-C3-6 scores, mothers of children whose parents have a psychiatric disorder had significantly higher SEAPP-C3-6-causal sub-dimension mean scores and significantly lower SEAPP-C3-6-preventer sub-dimension mean scores compared to that of the mothers of children whose parents have both health and medical illnesses (all p-values  $<.05$ ). Data along with the effect sizes and associated 95% CIs are summarized in Table 4.

### **The relationship characteristics of participants and emotional abuse potential of parents**

The mean scores of the SEAPP-C3-6-causal sub-dimension of the mothers of both boys and the unwanted children have been significantly higher than that of the mothers of both girls and the wanted children, while the mean scores of the SEAPP-C3-6-preventer sub-dimension have been significantly lower (all p values  $<.001$ ). The mothers of children with sleep and appetite problems had significantly higher SEAPP-C3-6-causal sub-dimension mean scores and





**Table 4.** The relationship between socio-demographic, familial characteristics of participants and parents' emotional abuse potentials.

	SEAPP-C3-6- Causal subdimension scores (mean $\pm$ SD)	p-value*	Effect size (95% CI)	SEAPP-C3-6- Preventer subdimension scores (mean $\pm$ SD)	p-value*	Effect size (95%CI)
Presence of disruptive behavior disorders						
comorbidity						
Yes	49.81 $\pm$ 2.88	<b>&lt;.001</b>	1.9 (1.3, 2.7)	69.25 $\pm$ 3.21	<b>&lt;.001</b>	-1.5 (-2.1, 0.8)
No	40.13 $\pm$ 5.48			81.05 $\pm$ 9.19		
Place of residence						
Urban	40.44 $\pm$ 5.56	.199	-0.3 (-0.7, 0.1)	81.54 $\pm$ 10.12	.388	0.2 (-0.2, 0.6)
Rural	41.92 $\pm$ 5.96			79.67 $\pm$ 9.16		
Family income level <sup>†</sup>						
Minimum wage/less than minimum wage	44.80 $\pm$ 5.35	<b>&lt;.001</b>	1.4 (1.0, 1.8)	73.94 $\pm$ 6.52	<b>&lt;.001</b>	-1.5 (-1.9, 1.1)
Above the minimum wage	38.11 $\pm$ 4.11			85.94 $\pm$ 8.72		
Maternal education level						
Primary education and lower	46.07 $\pm$ 5.55	<b>&lt;.001</b>	0.3 (0.1, 0.4)	70.79 $\pm$ 5.97	<b>&lt;.001</b>	0.3 (0.2, 0.4)
High school level	41.65 $\pm$ 5.45			79.63 $\pm$ 9.10		
University level	36.78 $\pm$ 3.32			88.63 $\pm$ 7.14		
The health status of the mother						
Healthy	40.29 $\pm$ 5.44	<b>.001</b>	0.1 (0.01, 0.2)	81.97 $\pm$ 9.68	<b>.003</b>	0.1 (0.01, 0.2)
Predominantly psychiatric disorder(s)	46.15 $\pm$ 4.16			71.77 $\pm$ 4.32		
Predominantly medical illness(es)	39.83 $\pm$ 6.54			83.08 $\pm$ 10.68		
Paternal education level						
Primary education and lower	45.44 $\pm$ 5.19	<b>&lt;.001</b>	0.2 (0.07, 0.3)	71.33 $\pm$ 5.22	<b>&lt;.001</b>	0.3 (0.1, 0.4)
High school level	42.01 $\pm$ 5.66			78.86 $\pm$ 9.40		
University level	37.09 $\pm$ 3.66			88.41 $\pm$ 6.82		
The health status of the father						
Healthy	39.99 $\pm$ 5.07	<b>&lt;.001</b>	0.2 (0.09, 0.3)	82.52 $\pm$ 9.33	<b>&lt;.001</b>	0.2 (0.07, 0.3)
Predominantly psychiatric disorder(s)	47.87 $\pm$ 4.86			69.80 $\pm$ 4.36		
Predominantly medical illness(es)	38.43 $\pm$ 5.76			83.29 $\pm$ 10.78		
Domestic conflict						
Yes	47.16 $\pm$ 4.19	<b>&lt;.001</b>	2.3 (1.8, 2.8)	71.05 $\pm$ 3.68	<b>&lt;.001</b>	-1.9 (-2.4, 1.5)
No	38.11 $\pm$ 3.74			85.36 $\pm$ 8.42		
History of mother's emotional neglect						
Yes	44.10 $\pm$ 6.27	<b>&lt;.001</b>	1.1 (0.7, 1.5)	76.34 $\pm$ 9.50	<b>&lt;.001</b>	-0.9 (-1.2, 0.5)
No	38.61 $\pm$ 3.94			84.25 $\pm$ 8.76		

(Continued)

**Table 4.** (Continued).

	SEAPP-C3-6- Causal subdimension scores (mean $\pm$ SD)	p-value*	Effect size (95% CI)	SEAPP-C3-6- Preventer subdimension scores (mean $\pm$ SD)	p-value*	Effect size (95%CI)
History of mother's physical abuse						
Yes	44.85 $\pm$ 6.15	<b>&lt;.001</b>	1.2 (0.8, 1.6)	75.46 $\pm$ 9.22	<b>&lt;.001</b>	-0.9 (-1.3, 0.5)
No	38.99 $\pm$ 4.38			83.61 $\pm$ 9.06		
History of father's emotional neglect						
Yes	44.80 $\pm$ 5.68	<b>&lt;.001</b>	1.6 (1.2, 1.9)	74.31 $\pm$ 8.27	<b>&lt;.001</b>	-1.5 (-1.9, 1.1)
No	37.72 $\pm$ 3.24			86.36 $\pm$ 7.46		
History of father's physical abuse						
Yes	46.50 $\pm$ 4.80	<b>&lt;.001</b>	2.3 (1.8, 2.8)	72.02 $\pm$ 6.19	<b>&lt;.001</b>	-1.9 (-2.4, 1.5)
No	37.66 $\pm$ 3.08			86.12 $\pm$ 7.61		

\*Data were given as mean  $\pm$  standard deviation. The Mann-Whitney U test for continuous variables was used to test group differences. **Bold font** indicates statistical significance:  $p < .05$ . Abbreviations: SD: Standard Deviation; SEAPP-C3-6: Scale for Emotional Abuse Potential of Parents with Children Aged 3 to 6.

significantly lower SEAPP-C3-6-preventer sub-dimension mean scores compared to that of the rest (all  $p$  values  $< .05$ ). Results along with the effect sizes and associated 95% CIs are indicated in Table 5.

### **Correlations between the SEAPP-C3-6 scores and the CPRS-RS scores, ages of the child and his/her parents**

The scores of all subscales of CPRS-RS have been significantly affirmatively correlated with SEAPP-C3-6-causal sub-dimension mean scores and significantly adversely correlated with SEAPP-C3-6-preventer sub-dimension mean scores (all  $p$ -values  $< 0.001$ ). There has been no correlation between the children's age, the fathers' age, and the order of siblings, and the mean scores of both sub-dimensions of the SEAPP-C3-6 (all  $p$ -values  $> .05$ ). However, mothers' age has been significantly adversely correlated with SEAPP-C3-6-causal sub-dimension mean scores ( $p = .021$ ) and significantly affirmatively correlated with SEAPP-C3-6-preventer sub-dimension mean scores ( $p = .027$ ). The number of siblings has been significantly affirmatively correlated with the SEAPP-C3-6-causal sub-dimension mean scores and significantly adversely correlated with the SEAPP-C3-6-preventer sub-dimension mean scores (both  $p < .001$ ). For details on the results, please see Table 6.

**Table 5.** The relationship between characteristics of participants and parents' emotional abuse potentials.

	SEAPP-C3-6- Causal subdimension scores (mean $\pm$ SD)	$p$ -value*	Effect size (95% CI)	SEAPP-C3-6- Preventer subdimension scores (mean $\pm$ SD)	$p$ -value*	Effect size (95%CI)
Gender		<b>&lt;.001</b>	0.8 (0.4, 1.2)		<b>&lt;.001</b>	-0.7 (-1.2, 0.2)
Male	41.98 $\pm$ 5.91			79.19 $\pm$ 9.77		
Female	37.68 $\pm$ 3.47			86.19 $\pm$ 8.16		
An infant from a planned pregnancy		<b>&lt;.001</b>	-0.9 (-1.4, 0.5)		<b>&lt;.001</b>	0.8 (0.4, 1.2)
Yes	39.52 $\pm$ 4.95			83.07 $\pm$ 9.41		
No	44.48 $\pm$ 6.06			75.42 $\pm$ 8.88		
The child's appetite**		<b>.004</b>	-0.6 (-0.9, 0.2)		<b>.005</b>	0.6 (0.2, 0.9)
Normal	39.39 $\pm$ 4.62			83.37 $\pm$ 9.05		
Poor or increased appetite	42.72 $\pm$ 6.37			78.02 $\pm$ 10.06		
Sleep pattern**		<b>&lt;.001</b>	-1. (-1.4, 0.6)		<b>&lt;.001</b>	0.9 (0.5, 1.3)
Regular	39.32 $\pm$ 4.72			83.59 $\pm$ 9.35		
Irregular	44.56 $\pm$ 6.16			74.83 $\pm$ 8.20		

\*Data were given as mean  $\pm$  standard deviation. The Mann-Whitney U test for continuous variables was used to test group differences. **Bold font** indicates statistical significance:  $p < .05$ .

\*\*A standard psychometric test was not used in the measurement of sleep patterns and the child's appetite, it was based on the parents' reports.

Abbreviations: SD: Standard Deviation; SEAPP-C3-6: Scale for Emotional Abuse Potential of Parents with Children Aged 3 to 6.

**Table 6.** Correlations between the SEAPP-C3-6 scores and the CPRS-RS scores, ages of the child and his/her parents.

Scale Scores	SEAPP-C3-6- Causal subdimesion		SEAPP-C3-6- Preventer subdimesion	
	p*	Rho*	p*	Rho*
CPRS-RS-cognitive problems/inattention	<b>&lt;.001</b>	0.53	<b>&lt;.001</b>	-0.54
CPRS-RS-hyperactivity	<b>&lt;.001</b>	0.74	<b>&lt;.001</b>	-0.69
CPRS-RS-oppositional scores	<b>&lt;.001</b>	0.79	<b>&lt;.001</b>	-0.75
CPRS-RS-ADHD index	<b>&lt;.001</b>	0.78	<b>&lt;.001</b>	-0.75
Child's age	.277	0.10	.153	-0.13
Mother's age	<b>.021</b>	-0.21	<b>.027</b>	0.20
Father's age	.281	-0.01	.399	0.08
Number of siblings	<b>&lt;.001</b>	0.36	<b>&lt;.001</b>	-0.37
Order of sibling	.074	0.16	.063	-0.17

\*Spearman's correlation analysis. **Bold font** indicates statistical significance:  $p < .05$ .

Abbreviations: ADHD: Attention-Deficit/Hyperactivity Disorder; CPRS-RS: Conners' Parent Rating Scale-Revised Short Form; SEAPP-C3-6: Scale for Emotional Abuse Potential of Parents with Children Aged 3 to 6.

## Discussion

In this study, we have compared the emotional abuse potential of mothers of preschool children with and without ADHD and we have provided data on children with ADHD who are at increased risk of emotional abuse by their mothers. The higher emotional abuse potential scores of mothers have been associated with higher Conners scores reflecting the worse ADHD symptomatology. More importantly, our findings have indicated that the risk of emotional abuse increases when it was comorbid with disruptive behavior disorders. Furthermore, children with low family income and low parental education level, a history of psychiatric disorder and history of abuse in their parents, and children experiencing and/or witnessing domestic violence had a high risk of emotional abuse by their mothers. From the perspective of the child's characteristics, boys, unwanted children and children with sleep and appetite problems have been at greater risk of emotional abuse by their mothers.

Studies examining the relationship between ADHD and abuse in school-aged children and adolescents revealed that those in the ADHD population are exposed to more abuse including emotional abuse than those in controls and this suggests that there is a strong association between maltreatment and ADHD (Briscoe-Smith & Hinshaw, 2006; Dinkler et al., 2017; Evinç et al., 2014; Hadianfard, 2014; Ouyang et al., 2008; Sari Gokten et al., 2016; Stern et al., 2018). However, studies focusing on the relationship between ADHD and emotional abuse were both limited and did not include preschool children. To the best of our knowledge, the present study is the first study that specifically focuses on the relationship between ADHD and emotional abuse in preschool years. Our findings are in line with previous studies revealing that diagnosis of ADHD in school-age children and adolescents may cause higher vulnerability to emotional abuse.

The symptoms and challenges of ADHD are listed as early potential risk factors for child maltreatment and the abusive attitudes of parents (Briscoe-Smith & Hinshaw, 2006; Dinkler et al., 2017; Evinç et al., 2014, 2018; Gul & Gurkan, 2018). There are several reasons for the association between ADHD and abuse and neglect. Firstly, parents may struggle to cope with the child showing ADHD symptoms such as hyperactivity, aggressiveness, impulsiveness (Gul & Gurkan, 2018; Hadianfard, 2014; Sari Gokten et al., 2016). Therefore, ADHD symptoms can increase parenting stress, reduce parental satisfaction with caregiving, cause ineffective parenting, which can eventually compel parents to exhibit more abusive discipline attitudes and use strict discipline (Evinç et al., 2018; Leitch et al., 2019; Uddin et al., 2020). Concordantly, a substantial literature revealed that punitive approaches and abusive disciplinary attitudes are much more observed in families with children with ADHD than that of families with children without ADHD (Alizadeh, Applequist, & Coolidge, 2007; Evinç et al., 2018). Our results have indicated that severe ADHD symptoms increase the emotional abuse potential scores of mothers. This suggests that more severe ADHD symptoms may be associated with increased conflict in mother-child relationships and the mother having more difficulties in taking care of the child and this can increase the risk of abusive discipline of the mother. Secondly, abusive and neglectful behaviors of parents toward their children may be associated with an increased prevalence of ADHD in their children (Alizadeh et al., 2007; Evinç et al., 2014). Since it has been observed that the maltreatment experienced in early childhood can increase vulnerability to developing ADHD symptoms or can exacerbate the existing ADHD symptoms, even though parental abusive discipline and parenting styles are not the main causal factors for ADHD (Dinkler et al., 2017). Thirdly, given that ADHD is primarily a genetically-based disorder and its high heritability rates (Grimm, Kittel-Schneider, & Reif, 2018), parents of children with ADHD are also likely to exhibit impulse control and attention problems (Johnston, Mash, Miller, & Ninowski, 2012), and this possibly increases the likelihood of abusive behavior. Previous studies also indicated that parental ADHD impacts parenting skills. It was revealed that parents with ADHD experience more stress, exhibit higher impulsivity, have more frequent outbursts of anger and argue more with family members, have difficulty in being patient, have lower emotion regulation skills, all of which pose a risk for abuse (Johnston et al., 2012; Murray & Johnston, 2006). Finally, this relationship between abuse and ADHD may also arise out of both conditions' possibility of sharing common etiological/risk factors such as similar socioeconomic conditions, parental characteristics, and genetic factors (Briscoe-Smith & Hinshaw, 2006; Ouyang et al., 2008).

Regarding risk factors for the child, in this study, we have found out that being a boy, being an unwanted child, and having sleep and appetite problems are closely related to the higher emotional abuse potential of mothers. The most plausible explanation for the higher emotional abuse potential of mothers of boys than that of mothers of girls can be that all ADHD symptoms except attention deficit are more severe in boys. The second explanation can be that the symptom type of ADHD, regardless of symptom severity, may have had an effect on this outcome. Parents of hyperactive-impulsive children may have more difficulties in parenting, since other symptoms of ADHD other than attention deficit can cause more discipline problems and behavioral difficulties (Gul & Gurkan, 2018; Ouyang et al., 2008). This could cause to a higher frequency of parental abusive manner. Similar findings were reported by previous studies (Alizadeh et al., 2007; Evinç et al., 2014, 2018; Gul & Gurkan, 2018). The high emotional abuse potential of mothers of unwanted children may be the result of not being emotionally ready of the mother to take the motherhood responsibilities. Having sleep and appetite problems of the child may be related to his/her difficult temperament. Difficult temperament can affect the response and reactions of parents toward children and can cause parental stress and distress, which may establish a ground for failures in caregiving (Briscoe-Smith & Hinshaw, 2006; Leitch et al., 2019; Mofokeng & van der Wath, 2017; Stern et al., 2018).

A noteworthy finding of our study is that the mothers of children with ADHD comorbid with disruptive behavior disorders have higher emotional abuse potential than that of those mothers of children with ADHD not comorbid with disruptive behavior disorders. This finding confirms the previous study results indicating that high rates of externalizing behavior in the abused ADHD subgroup, and confirms that the existence of a comorbid conduct disorder further strengthens the relationship between ADHD and abuse/neglect (Briscoe-Smith & Hinshaw, 2006; Evinç et al., 2014; Leitch et al., 2019; Stern et al., 2018; Uddin et al., 2020). Various explanations can be made for this result. For instance, ADHD-diagnosed children with disruptive behavior disorders may experience more conflict with their parents and other family members due to additional symptoms such as refusing to comply with limitations and rules, having hostile-intrusive behaviors, and attacking the fundamental rights of others (Briscoe-Smith & Hinshaw, 2006; Evinç et al., 2014; Leitch et al., 2019; Mofokeng & van der Wath, 2017). This can contribute to the complexity of parent-child relationships and can cause ineffective communication and a more complex family environment.

In addition to child-related risk factors, parental and sociodemographic risk factors for child maltreatment have also been identified. Fundamentally, these risk factors which are important predictors for child maltreatment can be listed as the parental history of abuse in their own childhood, having all kinds of psychiatric disorders, having physical health problems, being exposed to

domestic violence, being an early parent at a young age, having low income, and having low parental education level (Derakhshanpour et al., 2017; Mulder et al., 2018; Walsh et al., 2019). Consistent with these reports, the results of our study also have revealed that having low family income, having low parental education, having psychiatric disorders and the history of physical and emotional abuse in parents, being a mother at an early age, having an increased number of siblings, being exposed to domestic violence increase the emotional abuse potential against children.

The fundamental strengths of this study are that it has addressed preschool children with ADHD, and it has examined a wide range of predictive factors of emotionally abusive attitudes through a special focus on emotional abuse. However, our study was subject to several limitations. Firstly, only mothers have completed the scale for emotional abuse potential of parents and we have not assessed the father's emotional abuse potential. Secondly, the parents' histories of childhood emotional and physical abuse have been retrospectively self-reported by surveyed parents, without using any scales. Therefore, this information may have been subjected to retrospectively recall bias and/or underestimation of rates of their maltreatment history. Finally, we have used a cross-sectional design and our sample size was relatively small. These weaknesses have restricted the generalizability of our findings and prevented the determination of definitive causality. More prospective longitudinal research is required to replicate and verify our findings. Future research shall also address the risks of physical and sexual abuse of children with preschool ADHD. It shall be once more noted that future studies with a larger sample including also fathers would be extremely valuable.

### **Implications for practice**

This is the first study to focus specifically on the relationship between ADHD and exposure to emotional abuse in the preschool period. Our findings have indicated a robust association between emotional abuse and preschool ADHD, by highlighting the significant role of comorbid disruptive behavior disorders. Thus, we have recommend that clinicians shall be aware that especially preschool children with ADHD suffering from disruptive behavior disorder comorbidity are at further heightened risk of emotional abuse. In addition to this, in clinical settings during routine assessment and treatment planning, it would be extremely useful to evaluate children with ADHD not only in terms of ADHD symptoms but also in terms of their risks of exposure to emotional abuse.

### **Acknowledgments**

The authors would like to thank all the children and their families for their collaboration with the study.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Data accessibility

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

## Author contributions

The study was planned by S.N.K., A.U.C., and M.K., and psychiatric examinations and assessments were done by A.U.C. and C.M.I. S.N.K, M.K., and G.D. contributed to the analysis and interpretation of the data. S.N.K, C.M.I., and G.D. drafted the article and revised it. A.U. C. and M.K. gave the final approval of the version to be published. All authors read and approved the final manuscript.

## Funding

There are no funders to report for this submission.

## ORCID

Cansu Mercan Isik  <http://orcid.org/0000-0001-9437-3024>

## References

- Alizadeh, H., Applequist, K. F., & Coolidge, F. L. (2007). Parental self-confidence, parenting styles, and corporal punishment in families of ADHD children in Iran. *Child Abuse & Neglect*, 31(5), 567–572. doi:10.1016/j.chiabu.2006.12.005
- American Psychiatric Association. (2013). In: *Diagnostic and statistical manual of mental disorders fifth edition (DSM-5)*. Washington, DA: Author.
- Bradshaw, L. G., & Kamal, M. (2017). Prevalence of ADHD in Qatari school-age children. *Journal of Attention Disorders*, 21(5), 442–449. doi:10.1177/1087054713517545
- Briscoe-Smith, A. M., & Hinshaw, S. P. (2006). Linkages between child abuse and attention-deficit/hyperactivity disorder in girls: Behavioral and social correlates. *Child Abuse & Neglect*, 30(11), 1239–1255. doi:10.1016/j.chiabu.2006.04.008
- Canals, J., Morales-Hidalgo, P., Jané, M. C., & Domènech, E. (2018). ADHD prevalence in Spanish preschoolers: Comorbidity, socio-demographic factors, and functional consequences. *Journal of Attention Disorders*, 22(2), 143–153. doi:10.1177/1087054716638511
- Danielson, M. L., Bitsko, R. H., Ghandour, R. M., Holbrook, J. R., Kogan, M. D., & Blumberg, S. J. (2018). Prevalence of parent-reported ADHD diagnosis and associated treatment among U.S. children and adolescents, 2016. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, 47(2), 199–212. doi:10.1080/15374416.2017.1417860



- Derakhshanpour, F., Shahini, N., Hajebe, A., Vakili, M. A., & Heydari Yazdi, A. S. (2017). Demographic characteristics and risk actors of children and parents in child abuse subtypes: Findings from a psychosocial support department. *Journal of Fundamentals of Mental Health, 19*(6), 459–467. doi:10.22038/jfmh.2017.9563
- Dinkler, L., Lundström, S., Gajwani, R., Lichtenstein, P., Gillberg, C., & Minnis, H. (2017). Maltreatment-associated neurodevelopmental disorders: A co-twin control analysis. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 58*(6), 691–701. doi:10.1111/jcpp.12682
- Evinç, Ş. G., Gençöz, T., Foto-Özdemir, D., Akdemir, D., Karadağ, F., & Ünal, F. (2014). Child maltreatment and associated factors among children with ADHD: A comparative study. *The Turkish Journal of Pediatrics, 56*(1), 11–22.
- Evinç, Ş. G., Özdemir, D. F., Karadağ, F., Akdemir, D., Gençöz, T., Sürücü, Ö., & Ünal, F. (2018). A qualitative study on corporal punishment and emotionally abusive disciplinary practices among mothers of children with ADHD. *Psychiatry and Clinical Psychopharmacology, 28*(3), 276–284. doi:10.1080/24750573.2018.1505284
- Grimm, O., Kittel-Schneider, S., & Reif, A. (2018). Recent developments in the genetics of attention-deficit hyperactivity disorder. *Psychiatry and Clinical Neurosciences, 72*(9), 654–672. doi:10.1111/pcn.12673
- Gul, H., & Gurkan, C. K. (2018). Child maltreatment and associated parental factors among children with ADHD: A comparative study. *Journal of Attention Disorders, 22*(13), 1278–1288. doi:10.1177/1087054716658123
- Hadianfard, H. (2014). Child abuse in group of children with attention deficit-hyperactivity disorder in comparison with normal children. *International Journal of Community Based Nursing and Midwifery, 2*(2), 77–84.
- Johnston, C., Mash, E. J., Miller, N., & Ninowski, J. E. (2012). Parenting in adults with attention-deficit/hyperactivity disorder (ADHD). *Clinical Psychology Review, 32*(4), 215–228. doi:10.1016/j.cpr.2012.01.007
- Kaner, S., Buyukozturk, S., & Iseri, E. (2013). Conners parent rating scale-revised short: Turkish standardization study/Conners anababa dereceleme olcegi-yenilenmis kısa: Turkiye stardardizasyon calismasi. *Archives of Neuropsychiatry, 50*(2), 100–110. doi:10.4274/npa.y6219
- Kumar, G., & Steer, R. A. (2003). Factorial validity of the Conners' parent rating scale-revised: Short form with psychiatric outpatients. *Journal of Personality Assessment, 80*(3), 252–259. doi:10.1207/S15327752JPA8003\_04
- Kumari, V. (2020). Emotional abuse and neglect: Time to focus on prevention and mental health consequences. *The British Journal of Psychiatry: The Journal of Mental Science, 217*(5), 597–599. doi:10.1192/bjp.2020.154
- Leitch, S., Sciberras, E., Post, B., Gerner, B., Rinehart, N., Nicholson, J. M., & Evans, S. (2019). Experience of stress in parents of children with ADHD: A qualitative study. *International Journal of Qualitative Studies on Health and Well-being, 14*(1), 1690091. doi:10.1080/17482631.2019.1690091
- Merrick, M. T., Ford, D. C., Ports, K. A., & Guinn, A. S. (2018). Prevalence of adverse childhood experiences from the 2011–2014 behavioral risk factor surveillance system in 23 States. *JAMA Pediatrics, 172*(11), 1038–1044. doi:10.1001/jamapediatrics.2018.2537
- Mofokeng, M., & van der Wath, A. E. (2017). Challenges experienced by parents living with a child with attention deficit hyperactivity disorder. *Journal of Child and Adolescent Mental Health, 29*(2), 137–145. doi:10.2989/17280583.2017.1364253
- Mulder, T. M., Kuiper, K. C., van der Put, C. E., Stams, G., & Assink, M. (2018). Risk factors for child neglect: A meta-analytic review. *Child Abuse & Neglect, 77*, 198–210. doi:10.1016/j.chiabu.2018.01.006

- Murray, C., & Johnston, C. (2006). Parenting in mothers with and without attention-deficit/hyperactivity disorder. *Journal of Abnormal Psychology, 115*(1), 52–61. doi:10.1037/0021-843X.115.1.52
- Ouyang, L., Fang, X., Mercy, J., Perou, R., & Grosse, S. D. (2008). Attention-deficit/hyperactivity disorder symptoms and child maltreatment: A population-based study. *The Journal of Pediatrics, 153*(6), 851–856. doi:10.1016/j.jpeds.2008.06.002
- Pekdoğan, S., & Kanak, M. (2019). Validity and reliability study of the scale for emotional abuse potential of parents with children aged 3 to 6. *International Journal of Eurasia Social Sciences, 10*, 354–366.
- Sari Gokten, E., Saday Duman, N., Soylu, N., & Uzun, M. E. (2016). Effects of attention-deficit/hyperactivity disorder on child abuse and neglect. *Child Abuse & Neglect, 62*, 1–9. doi:10.1016/j.chiabu.2016.10.007
- Sayal, K., Prasad, V., Daley, D., Ford, T., & Coghill, D. (2018). ADHD in children and young people: Prevalence, care pathways, and service provision. *The Lancet. Psychiatry, 5*(2), 175–186. doi:10.1016/S2215-0366(17)30167-0
- Stern, A., Agnew-Blais, J., Danese, A., Fisher, H. L., Jaffee, S. R., Matthews, T., . . . Arseneault, L. (2018). Associations between abuse/neglect and ADHD from childhood to young adulthood: A prospective nationally-representative twin study. *Child Abuse & Neglect, 81*, 274–285. doi:10.1016/j.chiabu.2018.04.025
- Uddin, J., Alharbi, N., Uddin, H., Hossain, M. B., Hatipoğlu, S. S., Long, D. L., & Carson, A. P. (2020). Parenting stress and family resilience affect the association of adverse childhood experiences with children's mental health and attention-deficit/hyperactivity disorder. *Journal of Affective Disorders, 272*, 104–109. doi:10.1016/j.jad.2020.03.132
- Walsh, D., McCartney, G., Smith, M., & Armour, G. (2019). Relationship between childhood socioeconomic position and adverse childhood experiences (ACEs): A systematic review. *Journal of Epidemiology and Community Health, 73*(12), 1087–1093. doi:10.1136/jech-2019-212738
- World Health Organization. (2017). *Child maltreatment*. Retrieved November 10, 2019, from [https://www.who.int/violence\\_injury\\_prevention/violence/child/Child\\_maltreatment\\_info\\_graphic\\_EN.pdf?ua=1](https://www.who.int/violence_injury_prevention/violence/child/Child_maltreatment_info_graphic_EN.pdf?ua=1)