Submitted: 01 August, 2024 Accepted: 10 October, 2024 Published: 03 May, 2025 DOI:10.22514/jocpd.2025.059

ORIGINAL RESEARCH

Journal of Clinical Pediatric Dentistry

Evaluation of dental anxiety in children in relation to children's emotional intelligence, parenting styles, and parents' dental anxiety

Ozgul Cartı Dorterler[1,*], Nilfer Sahin[2]

[1]Department of Pediatric Dentistry, Muğla Sıtkı Koçman University Faculty of Dentistry, 48000 Mugla, Türkiye
[2]Department of Child and Adolescent Mental Health Diseases School of Medicine, Muğla Sıtkı Koçman University, 48000 Mugla, Türkiye

***Correspondence**
ozgulcarti@mu.edu.tr
(Ozgul Cartı Dorterler)

Abstract

Backround: Dental anxiety and behavioural problems are frequently encountered in dentistry. The aim of this study was to examine the correlations between children's dental fear and anxiety and the subscales of emotional intelligence, parental dental anxiety, and parenting styles. **Methods**: Children aged 7–12 years without prior dental treatment experience were included in the study. The children's dental anxiety levels were determined via the facial version of the Modified Child Dental Anxiety Scale (MCDAS(f)). To assess their emotional intelligence levels, the Bar-On Emotional Intelligence Scale-Child and Adolescent Form was administered. The dental anxiety levels of the children's families were evaluated via the Corah's Dental Anxiety Scale (CDAS), whereas the parenting style was assessed with the Parenting Style and Dimension Questionnaire. **Results**: We found a positive relationship between the MCDAS(f) score and patient age (p = 0.023) and between the MCDAS(f) and CDAS scores (p = 0.047). A negative relationship was evident between the MCDAS(f) scores and the emotional quotient (EQ) scores (p = 0.04), with a weak negative relationship between the MCDAS(f) scores and general mood. The latter relationship was not statistically significant (p = 0.053), but the p-value was borderline and had the potential to be clinically significant. **Conclusions**: Based on the study results, we concluded that children with higher overall EQ levels exhibit lower levels of dental anxiety. Furthermore, we observed that children with high scores on the emotional intelligence subscale of optimism and positive outlook, which is included in the general mood scale, tend to have lower levels of dental anxiety. As children age, their cognitive levels increase, which appears to be associated with a rise in dental anxiety levels. Our findings also showed that the anxiety levels of the children were positively but weakly correlated with the anxiety levels of their families.

Keywords

Dental anxiety; Emotional quotient; Parenting style

1. Introduction

Dental anxiety is a serious issue for paediatric dentists because of its strong association with many behavioural management problems [1]. The development of dental anxiety has a multifactorial and poorly understood aetiology. Among the causes, the most common source is direct conditioning. However, not all children who have negative dental experiences develop dental anxiety. Parents play a significant role in teaching their children how to cope with fearful situations [2]. The impact of parental dental anxiety on children's dental anxiety remains a controversial topic among researchers. While some studies have reported a direct relationship, others have not been able to confirm this finding [3–5]. This could be due to other psychological factors, such as temperament, attachment, and psychological disorders, which play significant roles in the development of dental anxiety [6–8].

Many factors, such as cognitive ability, the ability to use different coping strategies to assist with anxious feelings, and the social adaptability skills that children use to respond to ordinary or daily experiences, can affect a child's response in a dental setting [9]. Furthermore, emotional intelligence provides new fundamental insights and a critical clinical understanding of children's emotional and behavioural outcomes. Emotional intelligence refers to a person's ability to understand, generate, and regulate their emotions and is one of the theories of intelligence that expands the concept of intelligence to better address the complexities of a person's interactions with their environment [10]. It is defined as "the ability to monitor one's own and others' emotions, discriminate among them, and use this information to guide one's thinking and actions" [11]. In addition to the ability to regulate emotions

to cope effectively with daily demands, the ability to motivate oneself to achieve personal goals and create a positive impact also falls within the scope of emotional intelligence [12]. The emotional quotient (EQ) is a self-reported measure of emotional and social behaviour that provides an estimate of a person's underlying emotional and social intelligence [13]. Given that EQ is an influential factor, an assessment of a child's anxiety and behaviour in the dental setting with a focus on the subscales of emotional intelligence can highlight problematic areas of emotional regulation in the child, which may aid in the formulation of an emotion-based behavioural management strategy. Such strategies are suitable for capitalising on early interventions to regulate children's emotion-related behaviours during dental treatments and potentially averting the emergence of certain behavioural problems [14].

Parenting styles provide a framework for the psychosocial development of children and shape their behaviours [15]. Baumrind identified three primary parenting styles: authoritative, authoritarian and permissive [16]. This classification of parenting styles serves as a valuable tool for investigating the impact of parenting on various issues related to a child's development. While some researchers have reported a relationship between parenting styles and dental fear in children, others have been unable to correlate parenting styles with dental anxiety [17, 18]. Given the limited evidence gathered from a small number of studies, the relationships between parenting styles and children's dental fear and anxiety remain uncertain. In this study, we therefore aimed to examine the correlations between children's dental fear and anxiety and the subscales of emotional intelligence, parental dental anxiety, and parenting styles.

2. Materials and methods

2.1 Study design

Our study included children and their parents who applied to the Department of Pediatric Dentistry at the Muğla Sıtkı Koçman University Faculty of Dentistry and agreed to participate in the study. The children were between the ages of 7 and 12 years, had no history of dental treatment, and did not have any physical, neurological or psychological disorders that would impede communication. Children with significant medical histories, who had been previously hospitalised for lengthy periods, or who had special needs were not included in the study. Those who presented with emergency conditions, such as trauma in the orofacial region, facial swelling accompanied by fever, or complaints of severe spontaneous pain, were similarly not included in the study. Approval for the study was obtained from the Ethics Committee of Medicine and Health Sciences at Muğla Sıtkı Koçman University (Protocol No. 230090). The study was conducted between October 2023 and May 2024. During this period, 1255 patients visited the clinic. A total of 588 patients were excluded from the study because they were younger than 7 years or older than 12 years. A total of 561 patients were also excluded from the study because they had had previous dental treatment experiences. The study sample then comprised 106 patients. Six of these patients were subsequently excluded because they did not complete the required questionnaires in full. After obtaining the consent of the participants who agreed to participate in the study, information was collected from each family regarding the participating child's demographic background (age, gender, and place of birth), the family's socioeconomic status (family income and parents' education levels and occupations), the family structure (single parent or nuclear family), the presence of siblings, and the child's birth order.

2.2 Data collection

Families' dental anxiety was determined via Corah's Dental Anxiety Scale (CDAS), for which validity and reliability for the Turkish context have been established [19]. The CDAS consists of four multiple-choice questions that address an individual's reactions and expectations about visiting and receiving treatment from a dentist. Each question has five response options ranging from 1 (no anxiety) to 5 (extreme anxiety), which can result in a total score ranging from 4 to 20. A CDAS score of 15 or above indicates high dental anxiety.

The Parenting Styles and Dimensions Questionnaire was used to determine the parenting styles in the families. This questionnaire is a self-report tool designed to measure the authoritative, authoritarian, and permissive parenting styles of the parents of children aged 4–12 years. The validity and reliability of the Turkish version of the scale have previously been corroborated by Önder *et al*. [20]. The scale includes 62 items. However, in accordance with the changes made in 2001, the final version of the scale contains 32 items. Each item on the scale is evaluated as "never", "rarely", "sometimes", "often" or "always".

The children's emotional intelligence levels were determined via the Bar-On Emotional Intelligence Scale-Child and Adolescent Form Scale (EQ-i (YV)). The children's parents assisted them in completing this scale. The EQ-i (YV) can be administered to children and adolescents aged 7–18 years. The scale is reported to have excellent psychometric properties and can be used to identify the core features of emotional intelligence in children. Turkish validity and reliability studies of the scale have previously been conducted [21]. The scale consists of 60 items related to intrapersonal relationships, interpersonal relationships, stress management, adaptability, general mood, positive impression and total EQ.

The children's dental anxiety was determined through the use of the facial version of the Modified Child Dental Anxiety Scale (MCDAS(f)). The researcher assisted the children in completing this scale. The MCDAS(f) is a self-reported measure developed to assess situational anxiety in children. The validity and reliability of the scale in the Turkish context has been substantiated [22]. This scale uses pictorial representations to rate anxiety levels on a 5-point scale for eight questions related to dental procedures. The total score on this scale can range from 8 to 40, with scores below 19 indicating low anxiety and scores above 31 signifying severe dental anxiety or phobia.

Academic performance is defined as the average of the grades a student has earned as a result of control and assessment activities conducted to determine the extent to which the objectives of a course or all courses have been achieved at every level of education and throughout the educational pro-

cess [23]. In line with the Regulation on Preschool Education and Primary Education Institutions of the Ministry of National Education in Turkey, students with an average score of 85 or higher out of 100 are awarded a certificate of achievement, while those with an average score of 70 and 85 out of 100 are awarded a certificate of appreciation [24]. In this study, academic performance levels were determined by asking the parents about their children's grade point averages based on the ranges <70, 70–85 and >85.

2.3 Statistical analysis

Statistical analyses were conducted using Jamovi version 2.3.23 software (The Jamovi Project, Sydney, NSW, Australia). Five outlier scales that indicated the presence of multivariate outliers were removed from the study. Descriptive statistics, namely, the mean, standard deviation, standard error, minimum and maximum, were presented for all the groups and subgroups. The assumption of normality was examined via the Shapiro-Wilk test. The MCDAS(f) scores met the assumption of normality both overall and in the subgroups. Group comparisons were performed by applying *t*-tests when two groups were involved, and Analysis of Variance (ANOVA) was used for comparisons of more than two groups. Correlation comparisons of the scale scores were performed via Pearson and Spearman's correlation coefficients. In our reporting of the results, bold *p*-values indicate cases where significant differences ($p < 0.05$) were detected and where significant correlation values were obtained.

3. Results

3.1 Demographic data

According to our results, the mean MCDAS(f) score did not differ based on the sociodemographic variables of gender, mother or father's education level, family's monthly income level, family structure or academic performance score (Table 1).

3.2 Results for the scale scores

In Table 2, the mean, median, standard deviation, interquartile range, and minimum and maximum values for age and the MCDAS(f) scores are presented. This table also shows the results of the normality tests for the scale scores.

3.3 Correlations between dental anxiety levels and MCDAS(f) scores

Correlations between dental anxiety levels and MCDAS(f) scores were shown in Table 3.

- There was a positive relationship between the MCDAS(f) score and patient age ($p = 0.023$).
- There was a positive relationship between the MCDAS(f) and CDAS scores ($p = 0.047$).
- There was a negative relationship between the MCDAS(f) score and EQ ($p = 0.04$).
- There was a weak negative relationship between the MCDAS(f) score and general mood. This relationship was not statistically significant ($p = 0.053$), but the *p*-value was borderline and had the potential to be clinically significant.
- There was no correlation between parenting style and the level of dental anxiety in the children ($p = 0.41$ for an authoritative style, $p = 0.409$ for an authoritarian style, $p = 0.621$ for a permissive style).

4. Discussion

In this study, correlations between the levels of dental anxiety in children and their sociodemographic variables, their total emotional intelligence (including its subscales), their families' levels of dental anxiety, and the parenting styles in their families were evaluated.

Interest in the relationships between emotional intelligence and health and well-being is increasing. Emotional intelligence is thought to be related to health behaviours and to lead to better interactions with healthcare professionals, which may thereby increase the tendency to seek help and adhere to advice [25]. In this study, a statistically significant negative correlation was found between the children's total emotional intelligence levels and degrees of dental anxiety, which is consistent with the findings of a study conducted by Aminabadi *et al.* [14]. Our finding demonstrates that children with high emotional intelligence have lower levels of dental anxiety related to dental procedures. The general mood subscale of the EQ-i (YV) refers to an individual's optimism and positive outlook on events [26]. In this study, although not statistically significant, a negative correlation was found between general mood and levels of dental anxiety. This result indicates that having an optimistic and positive outlook before a dental procedure may have the effect of reducing dental anxiety levels. Understanding how dental fear and anxiety develop or are learned in children is crucial for reducing these fears. Most psychology scholars believe that fears are learned. Different pathways for learning fear, such as direct conditioning or indirect learning through modelling, have been identified [27].

Indirect learning assumes that individuals can learn by observing the behaviours of others and the outcomes of those behaviours [27, 28]. Children's responses to dental procedures may be influenced by factors such as culture, parenting style, age, cognitive level, anxiety and fear, reactions to strangers, social expectations, and temperament [29–31]. The attitudes of parents during dental procedures can be considered a modelling process in which children imitate adult models in the development of dental fear and anxiety [32]. Parents, especially if they have had negative experiences with dentists themselves, play a significant role in how a child behaves during a dental appointment. As such, an anxious or fearful parent can negatively impact a child's behaviour in the dental clinic [33]. Furthermore, parents may have a specific cognitive style for coping with pain, which may in turn affect the responses of their children to their own pain experiences [34]. Studies have reported a significant relationship between parents and children's dental anxiety [32, 35, 36]. In our study, in line with the literature, a statistically significant positive correlation was found between the levels of dental anxiety in the parents and those in their children.

When examining the relationship between parenting style

TABLE 1. Statistical analysis of the participants' demographic data and the facial version of the Modified Child Dental Anxiety Scale (MCDAS(f)) scores.

Group	n	MCDAS(f) mean	SD	SE	*t**	*p*
Boy	45	21.7	7.01	1.050	−0.0911	0.928
Girl	50	21.8	7.00	0.990		
Mother's education					*F***	*p*
Primary	21	22.5	8.11	1.770	1.1400	0.337
Middle	18	19.1	6.48	1.530		
High	26	22.6	6.81	1.330		
University	30	22.1	6.47	1.180		
Father's education					*F***	*p*
Primary	14	21.9	8.25	2.205	1.5800	0.200
Middle	18	18.7	6.36	1.499		
High	29	22.2	7.98	1.483		
University	34	22.9	5.45	0.935		
Family income					*F***	*p*
<300 €	7	21.4	5.56	2.103	0.0556	0.983
300–600 €	28	21.5	7.71	1.456		
600–900 €	15	22.4	7.73	1.995		
>900 €	45	21.7	6.63	0.988		
Family structure					*t**	*p*
Single parent	4	19.5	20.00	0.957	−0.6600	0.511
Nuclear	91	1.9	21.00	0.744		
Academic performance score					*F***	*p*
85	65	21.2	6.88	0.853	0.6990	0.500
70–85	23	23.2	6.51	1.357		
70	7	22.3	9.45	3.570		

**Two independent samples t-test, **Analysis of variance. MCDAS(f): facial version of the Modified Child Dental Anxiety Scale; SD: standard deviation; SE: standard error.*

TABLE 2. Descriptive statistics of the participants' demographic data and the facial version of the Modified Child Dental Anxiety Scale (MCDAS(f)) scores.

		95% Confidence Interval								Shapiro-Wilk	
	n	Mean	Min	Max	Median	SD	IQR	Min	Max	W	*p*
Patient age	95	8.74	8.43	9.04	9	1.496	3.0	7	12	0.892	<0.001
Number of siblings	95	2.17	1.97	2.37	2	0.975	1.0	0	6	0.839	<0.001
Birth order	95	1.85	1.68	2.02	2	0.825	1.0	1	5	0.810	<0.001
MCDAS(f)	95	21.76	20.34	23.18	21	6.969	10.0	8	40	0.985	0.334
Corah's DAS	95	9.35	8.62	10.07	9	3.548	5.5	4	19	0.956	0.003
EQ	95	176.08	172.04	180.13	177	19.871	30.5	128	240	0.990	0.674
Intrapersonal relationships	95	15.99	15.35	16.63	16	3.120	4.5	10	23	0.976	0.072
Interpersonal relationships	95	39.79	38.84	40.74	39	4.665	6.0	26	48	0.977	0.091
Adaptability	95	30.34	29.03	31.65	31	6.422	9.5	13	41	0.957	0.003
Stress management	95	27.05	25.77	28.34	26	6.298	9.0	15	42	0.981	0.170
General mood	95	45.97	44.89	47.04	47	5.278	7.0	33	55	0.956	0.003
Positive impression	95	16.43	15.75	17.11	16	3.325	4.5	10	29	0.966	0.015
Authoritative parenting style	95	64.75	63.22	66.27	67	7.478	9.5	44	75	0.920	<0.001
Authoritarian parenting style	95	17.69	16.78	18.61	17	4.472	6.0	12	30	0.920	<0.001
Permissive parenting style	95	11.22	10.52	11.92	11	3.443	4.0	5	20	0.968	0.020

SD: standard deviation; IQR: interquartile range; MCDAS(f): facial version of the Modified Child Dental Anxiety Scale; EQ: emotional quotient.

TABLE 3. Correlations between the facial version of the Modified Child Dental Anxiety Scale (MCDAS(f)) scores.

	MCDAS(f)	
	r	*p*
Patient age	0.234*	0.023
Sibling	0.030*	0.776
Birth order	−0.014*	0.895
Corah's DAS	0.204*	0.047
EQ	−0.210**	0.040
Intrapersonal relationships	−0.120**	0.237
Interpersonal relationships	−0.040**	0.637
Adaptability	−0.060*	0.539
Stress management	−0.157**	0.130
General mood	−0.199*	0.053
Positive impression	−0.112*	0.280
Authoritative parenting style	−0.085*	0.410
Authoritarian parenting style	−0.086*	0.409
Permissive parenting style	−0.050*	0.621

**Spearman correlation coefficient, **Pearson correlation coefficient. MCDAS(f): facial version of the Modified Child Dental Anxiety Scale; EQ: emotional quotient.*

and children's dental anxiety, we concluded that there is no correlation between these variables, which is similar to the results of Krikken *et al*. [18, 37]. This suggests that parenting style does not have an effect on the aetiology of children's anxiety related to dental treatments. We therefore purport that the use of effective behaviour guidance techniques by dentists could lead to increased acceptance rates of planned dental treatments by children.

Age is one of the factors that has an immense impact on the presence of anxiety among children. Younger children are more likely to be affected by fear of the unknown and to have separation anxiety [38, 39]. Contrary to what is commonly indicated in the literature, we found a positive correlation between increasing age and the anxiety levels of the children in our study. We attribute this finding to the fact that with increasing age, children may have higher attention and cognitive levels and may associate their own experiences with the negative experiences of their family members.

It is difficult to find a study in the literature that is without limitations. The most significant limitation in our study was the evaluation of a small sample of 95 participants. However, considering the high prevalence of oral and dental health issues and early childhood caries, the likelihood of finding children aged 7–12 years without any dental treatment experience is low. Additionally, the child self-report scale used to determine emotional intelligence and its subscales is suitable for children over the age of 7. The status of children younger than 7 years, who are more likely to lack dental treatment experience, could therefore not be assessed.

5. Conclusions

On the basis of the results obtained in this study, we concluded that children with higher overall EQ levels generally exhibit lower levels of dental anxiety. Furthermore, we observed that children with high scores on the emotional intelligence subscale of optimism and positive outlook, which is included in the general mood scale, tend to have lower levels of dental anxiety. As children age, their cognitive levels increase, which appears to be associated with a rise in dental anxiety levels. We believe that this is partly due to children learning indirectly from the experiences of the people in their immediate environment. Indeed, our findings showed that the anxiety levels of the children positively correlated with those of their families. Conducting more comprehensive studies on this topic will increase the success of behaviour guidance techniques that dentists can employ with their paediatric patients.

ABBREVIATIONS

CDAS, Corah's Dental Anxiety Scale; EQ, Emotional Quotient; MCDAS(f), facial version of the Modified Child Dental Anxiety Scale; EQ-i (YV), Bar-On Emotional Intelligence Scale-Child and Adolescent Form Scale; ANOVA, Analysis of Variance.

AVAILABILITY OF DATA AND MATERIALS

Data from the study are available from the corresponding author upon request.

AUTHOR CONTRIBUTIONS

OCD and NS—designed the research study, analyzed the data. OCD—performed the research work. NS—provided help and advice for the writing of the manuscript. All the authors contributed to editorial changes in the manuscript. All the

authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The research protocol was submitted and approved by the Ethics Committee of Medicine and Health Sciences at Muğla Sıtkı Koçman University (Protocol No: 230090 and September 2023). All parents and children older than 7 years and younger than 12 years who were eligible for inclusion were asked to provide informed consent to participate in the study.

ACKNOWLEDGMENT

Not applicable.

FUNDING

This research received no external funding.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

[1] Klingberg G, Berggren U, Noren JG. Dental fear in an urban Swedish child population: prevalence and concomitant factors. Community Dental Health. 1994; 11: 208–214.

[2] Hardy DF, Power TG, Jaedicke S. Examining the relation of parenting to children's coping with everyday stress. Child Development. 1993; 64: 1829–1841.

[3] Goettems M, Ardenghi T, Romano A, Demarco F, Torriani D. Influence of maternal dental anxiety on the child's dental caries experience. Caries Research. 2012; 46: 3–8.

[4] Leal A, Serra K, Queiroz R, Araújo M, Maia Filho E. Fear and/or anxiety of children and parents associated with the dental environment. European Journal of Paediatric Dentistry. 2013; 14: 269–272.

[5] Tong H, Khong J, Ong C, Ng A, Lin Y, Ng J, *et al*. Children's and parents' attitudes towards dentists' appearance, child dental experience and their relationship with dental anxiety. European Archives of Paediatric Dentistry. 2014; 15: 377–384.

[6] Hägglin C, Hakeberg M, Hällström T, Berggren U, Larsson L, Waern M, *et al*. Dental anxiety in relation to mental health and personality factors: a longitudinal study of middle-aged and elderly women. European Journal of Oral Sciences. 2001; 109: 27–33.

[7] Bergdahl M, Bergdahl J. Temperament and character personality dimensions in patients with dental anxiety. European Journal of Oral Sciences. 2003; 111: 93–98.

[8] Eli I, Uziel N, Blumensohn R, Baht R. Modulation of dental anxiety—the role of past experiences, psychopathologic traits and individual attachment patterns. British Dental Journal. 2004; 196: 689–694.

[9] Venham L, Murray P, Gaulin-Kremer E. Child-rearing variables affecting the preschool child's response to dental stress. Journal of Dental Research. 1979; 58: 2042–2045.

[10] Fernández-Berrocal P, Extremera N. Emotional intelligence: a theoretical and empirical review of its first 15 years of history. Psicothema. 2006; 18: 7–12.

[11] Salovey P, Mayer JD. Emotional intelligence. Imagination, Cognition Personality. 1990; 9: 185–211.

[12] Diane Santesso L, Reker Dana L, Schmidt LA, Segalowitz SJ. Frontal electroencephalogram activation asymmetry, emotional intelligence, and externalizing behaviors in 10-year-old children. Child Psychiatry Human Development. 2006; 36: 311–328.

[13] Bar-On RE, Parker JD. The handbook of emotional intelligence: theory, development, assessment, and application at home, school, and in the workplace. 1st edn. Jossey-Bass: San Francisco, CA, USA. 2000.

[14] Aminabadi NA, Adhami ZE, Oskouei SG, Najafpour E, Jamali Z. Emotional intelligence subscales: are they correlated with child anxiety and behavior in the dental setting? Journal of Clinical Pediatric Dentistry. 2013; 38: 61–66.

[15] Burlaka V. Externalizing behaviors of Ukrainian children: the role of parenting. Child Abuse Neglect. 2016; 54: 23–32.

[16] Baumrind D. Current patterns of parental authority. Developmental psychology. 1971; 4: 1–103.

[17] Ten Berge M, Veerkamp J, Hoogstraten J, Prins P. Childhood dental fear in relation to parental child-rearing attitudes. Psychological Reports. 2003; 92: 43–50.

[18] Krikken JB, Vanwijk AJ, Tencate JM, Veerkamp JS. Child dental anxiety, parental rearing style and dental history reported by parents. European Journal of Paediatric Dentistry. 2013; 14: 258–262.

[19] Seydaoğlu G, Doğan MC, Şükrü U, Yazgan inanç B, Çelik M. Reliability and validity of the Turkish version of the Corah dental anxiety scale and the frequency of dental anxiety. Ondokuz Mayıs Üniversitesi Diş Hekimliği Fakültesi Dergisi. 2006; 7: 7–14. (In Turkish)

[20] Önder A, Gülay H. Reliability and validity of parenting styles & dimensions questionnaire. Procedia-Social Behavioral Sciences. 2009; 1: 508–514.

[21] Köksal A. Validity and reliability study of the bar-on emotional quotient inventory for children and adolescents [doctoral thesis]. İstanbul University. 2007.

[22] Arslan I, Aydinoglu S. Turkish version of the faces version of the Modified Child Dental Anxiety Scale (MCDAS f): translation, reliability, and validity. Clinical Oral Investigations. 2022; 26: 2031–2042.

[23] Onuk ÖDT. The correlation between the general achievement point and level of motivation on music teaching as a profession in undergraduate [master's thesis]. Gazi University. 2007.

[24] Bakanlığı ME. Regulation of the ministry of national education on pre-school education and primary education institutions. 2014. Available at: http://mevzuat.meb.gov.tr/dosyalar/1703.pdf (Accessed: 26 July 2024).

[25] Ciarrochi JV, Deane FP. Emotional competence and willingness to seek help from professional and nonprofessional sources. British Journal of Guidance Counselling. 2001; 29: 233–246.

[26] Tetik G, Aktan ZD. The mediator effect of digital game addiction on the relationship between perceived parental attitudes and emotional intelligence among adolescents. Turkish Journal of Clinical Psychiatry. 2021; 24: 181–190.

[27] Rachman S. The conditioning theory of fearacquisition: a critical examination. Behaviour Research Therapy. 1977; 15: 375–387.

[28] Do CJ. Applying social learning theory to children with dental anxiety. Journal of Contemporary Dental Practice. 2004; 5: 126–135.

[29] Allen KD, Hutfless S, Larzelere R. Evaluation of two predictors of child disruptive behavior during restorative dental treatment. Journal of Dentistry for Children. 2003; 70: 221–225.

[30] Gustafsson A, Broberg A, Bodin L, Berggren U, Arnrup K. Dental behaviour management problems: the role of child personal characteristics. International Journal of Paediatric Dentistry. 2010; 20: 242–253.

[31] Howenstein J, Kumar A, Casamassimo PS, McTigue D, Coury D, Yin H. Correlating parenting styles with child behavior and caries. Pediatric Dentistry. 2015; 37: 59–64.

[32] Coric A, Banozic A, Klaric M, Vukojevic K, Puljak LJ. Dental fear and anxiety in older children: an association with parental dental anxiety and effective pain coping strategies. Journal of Pain Research. 2014; 7: 515–521.

[33] Klingberg G, Berggren U. Dental problem behaviors in children of parents with severe dental fear. Swedish Dental Journal. 1992; 16: 27–32.

[34] Kraljevic S, Banozic A, Maric A, Cosic A, Sapunar D, Puljak LJ. Parents' pain catastrophizing is related to pain catastrophizing of their adult children. International Journal of Behavioral Medicine. 2012; 19: 115–119.

[35] Lara A, Crego A, Romaro Moreto M. Emotional contagion of dental fear to children: the fathers' mediating role in parental transfer of fear. International Journal of Paediatric Dentistry. 2012; 22: 324–330.

[36] Themessl-Huber M, Freeman R, Humphris G, MacGillivray S, Terzi N. Empirical evidence of the relationship between parental and child dental fear: a structured review and meta-analysis. International Journal of Paediatric Dentistry. 2010; 20: 83–101.

[37] Krikken J, Veerkamp J. Child rearing styles, dental anxiety and disruptive behaviour; an exploratory study. European Archives of Paediatric Dentistry. 2008; 9: 23–28.

[38] Rantavuori K, Tolvanen M, Hausen H, Lahti S, Seppä L. Factors associated with different measures of dental fear among children at different ages. Journal of Dentistry for Children. 2009; 76: 13–19.

[39] Busato P, Garbín RR, Santos CN, Paranhos LR, Rigo L. Influence of maternal anxiety on child anxiety during dental care: cross-sectional study. Sao Paulo Medical Journal. 2017; 135: 116–122.

How to cite this article: Ozgul Cartı Dorterler, Nilfer Sahin. Evaluation of dental anxiety in children in relation to children's emotional intelligence, parenting styles, and parents' dental anxiety. Journal of Clinical Pediatric Dentistry. 2025; 49(3): 127-133. doi: 10.22514/jocpd.2025.059.