European Journal of Prosthodontics and Restorative Dentistry (2025) 33, 421-427

Keywords

Maternal emotional intelligence; Pediatric dental anxiety; Child behavior; Restorative

Authors

Anas Saleh Alandijani[1] Ateet Kakti[2*] Faris Bantan[3] Mahmoud Adel Slaghour [4] Rida Mohammed Khalifa[5] Imtinan Abdulrahman AlHussain[6]

Address for Correspondence

Ateet Kakti* Email:ateet.kakti@riyadh.edu.sa https://orcid.org/0009000089880400

[1]Postgraduate Resident, Pediatric Dentistry, Department of Preventive Dentistry, Riyadh Elm University, Riyadh, Saudi Arabia. Email: anas.a.alandijani2021@student.riyadh.edu .sa https://orcid.org/0009000505626736

[2*]Assistant Professor, Pediatric Dentistry, Department of Preventive Dentistry, College of Medicine & Dentistry, Riyadh Elm University, Riyadh, Saudi Arabia. Email: ateet.kakti@riyadh.edu.sa https://orcid.org/0009000089880400

[3]Postgraduate Resident, Pediatric Dentistry, Department of Preventive Dentistry, Riyadh Elm University, Riyadh, Saudi Arabia Email: faris.m.bantan2021@student.riyadh.edu.s a https://orcid.org/0009000130742975

[4]General Dentist, King Abdulaziz University, King Abdulaziz Hospital Makkah, Saudi Arabia.Email: mahmoud.a.slaghour@gmail.com https://orcid.org/0009000674148296

[5]General Dentist, Ministry of health - Second Health Cluster in Jeddah, AlMajid Health Center, Saudi Arabia. Email: redakhali123@gmail.com https://orcid.org/000900072570963X

[6]Senior Registrar, Pediatric Dentistry Aliman General Hospital, Riyadh, Saudi Arabia Email: imalhussain@moh.gov.sa https://orcid.org/0009000893016576

Received: 12.10. 2025
Accepted: 21.12. 2025
Doi: 10.1922/EJPRD_2865Ateet13

Association between Maternal Emotional Intelligence and Child's Anxiety and Behaviour during Pediatric Restorative Dental Treatment: A CrossSectional Study

Abstract

Pediatric dentistry is associated with dental anxiety and resistant behavior that are likely to affect the results of treatment adversely. Psychological issues within the family, particularly maternal traits, contribute to the emotional reactions of children towards dental care. Mother emotional intelligence can affect children perceptions and stress coping of dental situation. This research paper attempted to evaluate the relationship between maternal emotional intelligence and children anxiety and behavioral reactions to pediatric restorative dental treatment. A crosssectional study that was observational was carried in a group of 75 motherchild pairs that visited a dental clinic that deals with children. Children under the age of 10 years, who had restorativedental treatment needs and their respective mothers were involved. The maternal emotional intelligence was evaluated using a validated questionnaire. The area of child dental anxiety was assessed before treatment with the help of an agerelated anxiety scale, and child conduct during treatment was documented with the help of a standardized behavioral rating scale. Descriptive analysis, correlation and regression were used to analyze data. Maternal emotional intelligence was found to have a significant influence on child dental anxiety as well as more positive child behavior in treatment. Maternal emotional intelligence proved to be an important predictor of anxiety and behavioral outcome in children. The emotional intelligence of the mother is significant in lowering child dental phobia and encouraging cooperative behavior in restorative dental activities. The introduction of caregivercentered practice can improve the outcomes of pediatric dental practice.

1. Introduction

Child dental anxiety is a problem that has been well known in the pediatric dentistry field and is known to have a negative impact on the outcome of treatment, cooperation and long term oral health behavior.[1] Anxious children tend to behave uncooperatively in the dental setting and this may make it difficult to carry out simple procedures and this may require sophisticated approaches to behavioral management.[2] As it has been proven in previous studies, dental fear is a common occurrence of early childhood that might continue to adolescence unless it is effectively managed.[3] It is, therefore, necessary to understand what causes pediatric dental anxiety in order to enhance clinical efficiency and patient experiences.[4] Dental anxiety is very common in children of all ages and cultures and differs in terms of age and culture. One of the systematic reviews and metadata of dental anxiety among children and adolescents indicated that a very significant percentage of patients are moderately to severely anxious and that they should be identified and treated at an early age. The associations between high anxiety levels and avoidance of dental treatment, poorer oral health outcomes, and treatment complexity have been identified. These results highlight the need to investigate psychosocial causes of dental phobia among children.

The behavior of children in dental treatment is strongly linked to the level of anxiety and the abilities to cope.[5] Avoidable behavior may result in a lengthy treatment time and more stress to both the clinician and the child.[6] The subjective experiences of dental treatment such as fear, perception of pain, and loss of control by children are also significant factors that influence their behavioral reactions.[7] Therefore, one of the main aims of pediatric dental studies is how to determine factors that can be altered to affect child behavior.[8] Parental properties have always been considered as important determinants of the dental anxiety and behavior of the children. Parental attitudes, emotional reactions, and anxiety levels are all familyrelated factors, which influence the way children perceive and react to dental treatment considerably. The first people who act as emotional models to children are their parents especially in cases that are unfamiliar or stressful like a dental checkup. Their responses can either relieve or increase anxiety of children.

A number of studies have indicated a close relationship between the anxiety of parents and children whose parents were anxious about their dental procedure.[9] It has been found that children of anxious parents tend to develop dental fear and avoidance behaviors.[10] In the same way, parental dental anxiety has been also associated with abnormal dental attendance and poor oral health outcomes in children.[11] These results demonstrate the intergenerational imparting of anxietyrelated behaviors in dental practice. The emotional state of mothers is often the key factor since most of them come with children to the dental clinic. Maternalrelated studies have revealed that maternal levels of anxiety are strongly associated with dental anxiety and oral health condition of children.[12] Moreover, self reports of anxiety have been shown to be significantly consistent between maternal proxy reports and self reports by children, suggesting the strong emotional bond between mothers and children.

Emotional intelligence is the capacity of an individual to feel, interpret, control and use emotions in a good way. The increased emotional intelligence in the context of caregiving can help parents to cope with stressful circumstances in a calm way and react emotionally to the emotions their child has. Even though the emotional intelligence is very popular in the educational and psychological fields, there is still comparatively little research on its application to pediatric dental practices. Recent studies have also started investigating even wider parental psychology factors than dental phobia. Examples are parental anxiety disorders that have been identified as harmful in influencing cooperation and emotional reactions of children in dental treatment.[13] Also, styles of parenting have been identified to influence the child behavior concerning dental visits and the supportive and the authoritative styles were linked to more positive child behavior.[14] These results indicate that emotional competences like emotional intelligence can be very important in determining child outcomes.

In the pediatric dentistry, behavior management methods usually apply parental involvement to establish a favorable environment. Involving the parents in dental treatment has emerged to affect the behavior of the children and particularly in preschooleraged children. Emotional preparation and reassurance in pediatric practice are emphasized further by interventions focused on preventing anxiety (dental storybooks and visual distraction).

The research problem of the current study was to examine the relationship between maternal emotional intelligence and measures of anxiety and behavioral reactions of the children receiving pediatric restorative dental treatment. The other purpose of the study was to assess how maternal emotional intelligence affects the cooperation of the children during their dental procedures. Moreover, it aimed at establishing whether maternal emotional intelligence could be associated with less dental anxiety and more positive behavior among children in the higher levels.

2.Methodology

2.1 Study Design and Setting

The research design was crosssectional observational type where the relationship between maternal emotional intelligence and level of anxiety among children and behavioral reactions during the pediatric restorative dental procedure was assessed. The research had been done in the Department of Pediatric and Preventive Dentistry of a dental teaching hospital. The data collection was conducted within a specific time frame to make the treatment procedures and assessment conditions homogeneous.

2.2 Study Population and Sample Size

The sample population included children aged 410 years of age with the need of restorative dental care and their mothers. Participants were sampled using convenience sampling method, and those who fulfilled the criteria of eligibility were recruited. The sample size used was 75 motherchild pairs, and this was deemed sufficient according to the past literature on the study of mother and child dental anxiety, where the sample will have enough statistical power to analyze.

2.3 Inclusion and Exclusion Criteria

Children involved in the study were the ones that needed noninvasive or minimally invasive restorative dental treatment and were accompanied with their biological mothers. Only those mothers who were willing to take part and able to understand the questionnaire were used. Children with special health care needs, general illnesses, developmental disorders or a history of emergency dental visit were eliminated. The mothers who had a known psychiatric disorder as well were not to be included since they would confound the result of emotional intelligence testing.

2.4 Assessment of Maternal Emotional Intelligence

A validated measure of emotional intelligence questionnaire was used to measure the maternal emotional intelligence and assessed the major areas including emotional awareness, emotional regulation, empathy, and emotional utilization. The questionnaire was filled by mothers in a waiting room where there was no noise. The scoring was done on the basis of standardized rules and the higher the score, the higher the emotional intelligence.

2.5 Assessment of Child Anxiety and Behavior

Anxiety rating scale was also used to determine child dental anxiety just before the treatment, with a scale that is age-appropriate, but with minimal verbal influence. A trained pediatric dentist assessed child behavior during the restorative procedure by a preexisting behavioral rating scale at designated time points during treatment. The evaluatorhad no idea of the scores of maternal emotional intelligence to minimize observer bias.

2.6 Dental Procedure Standardization

There was consistency in all restorative dental treatments undertaken in accordance with standard clinical measures. A single trained dentist carried out procedures on a group of children using the tellshowdo method, with no pharmacological control of behaviour, in order to reduce variation in child responses.

2.7 Data Collection and Statistical Analysis

Data collected were also stored in a computerized database and examined with statistical application. The demographic variables and scale scores were summarized using a descriptive statistic. Correlation and regression analyses were used to identify the relationship between maternal emotional intelligence, child anxiety, and child behavior. The level of significance of p was regarded at 0.05.

2.8 Ethical Considerations

Prior to the commencement of the study, ethical approval was taken by the Institutional Ethics Committee.

Informed consent was secured among mothers through written form and through verbal consent among children. Confidentiality of the participants was ensured during the study.

3. Results

3.1 Demographic Characteristics of the Study Participants

In the current study, 75 motherchild pairs were taken into consideration. Demographic details of the children and their mothers were determined to know the distribution of the study population and to make the sample homogeneous before proceeding with the analysis. The study children were aged 410 years of mean age 6.8 +1.9 years. A small percentage of the sample was made up of male children, compared to females. The majority of mothers were in the middle adult age category, which is a representation of the normal care giving population who bring children to the dentists. Table 1 contains the description of the demographic distribution of the study participants.

Table 1. Demographic characteristics of the study population (n = 75)

The proportion of children within the age range of 710 years was the largest, and the proportion of mothers aged between 2635 years was the largest, as it is demonstrated in Table 1. This population profile was an adequate point of departure to understand the maternal emotional intelligence and its relationship to child anxiety and behavior.

Variable	Category	Frequency (n)	Percentage (%)
Child age (years)	4–6	32	42.7
	7–10	43	57.3
Child gender	Male	42	56.0
	Female	33	44.0
Mother's age (years)	20–25	14	18.7

3.2 Maternal Emotional Intelligence and Child Anxiety Scores

The scores on the maternal emotional intelligence were used to assess the general emotional competence of mothers that took part in the study. The scores revealed that most of the mothers had moderate and high levels of emotional intelligence. In the same manner, the level of anxiety amongchildren before the dental operation was tested to understand the level of anxiety before the procedure in the clinical environment. These scores were different in all the sample and this shows that children reacted differently to dental treatment. Table 2 summarizes the descriptive statistics of the maternal emotional intelligence and child anxiety scores.

Variable	Mean ± SD	Minimum	Maximum
Maternal emotional intelligence	124.6 ± 15.3	92	158
Child anxiety score	6.1 ± 2.4	2	10

As shown in Table 2, the maternal emotional intelligence scores were found to be broadly distributed which indicated the presence of differences in emotional abilities between mothers. The level of anxiety experienced by children before the treatment showed that a significant number of children were moderately anxious.

3.3 Child Anxiety and Behavior During Restorative Dental Treatment

A standard behavioral rating scale was used to assess child behavior during the restorative dental treatment. The behavioral reactions were cooperative and uncooperative, which is a representation of the individual differences in the emotional regulation and coping strategies of children when they received dental treatment. Table 3 illustrates the distribution of the categories of child behavior witnessed in the process of treatment.

Behavior category	Frequency (n)	Percentage (%)
Definitely positive	21	28.0

Behavior category	Frequency (n)	Percentage (%)
Positive	25	33.3
Negative	19	25.3

Table 3 indicates that most children either displayed positive or definitely positive behavior with the lesser percentage of children displaying negative behavior during treatment. Such a behavioral distribution closely demonstrates the significance of determining the factors that determine child cooperation in the dental environment.

3.4 Association Between Maternal Emotional Intelligence and Child Anxiety

Correlation analysis was conducted to test the correlation between maternal emotional intelligence and child anxiety. The findings showed that the maternal emotional intelligence is significantly and negatively correlated with child anxiety scores. Figure 1 shows the correlation between maternal emotional intelligence scores and the levels of anxiety in children.

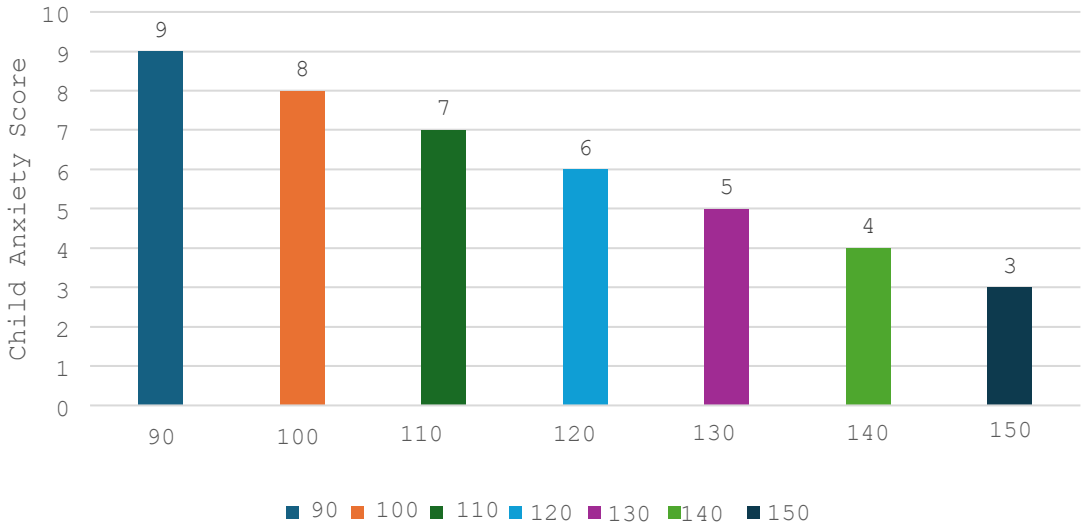

Figure 1. Showing the relationship between maternal emotional intelligence scores and child anxiety levels

As shown in Figure 1, increased maternal emotional intelligence scores had a negative correlation with child anxiety scores. This observation indicates that mothers who have positive emotional awareness and regulation can affect the emotional reaction of their child to dental care in a positive way.

3.5 Association Between Maternal Emotional Intelligence and Child Behavior

The same was analyzed again to determine the relationship between maternal emotional intelligence and child behavior during dental treatment. The presence of a statistically important relationship was found, which showed that the maternal emotional intelligence affected the behavioral reactions of children. Figure 2 indicates the distribution of the child behavior among different levels of maternal emotional intelligence.

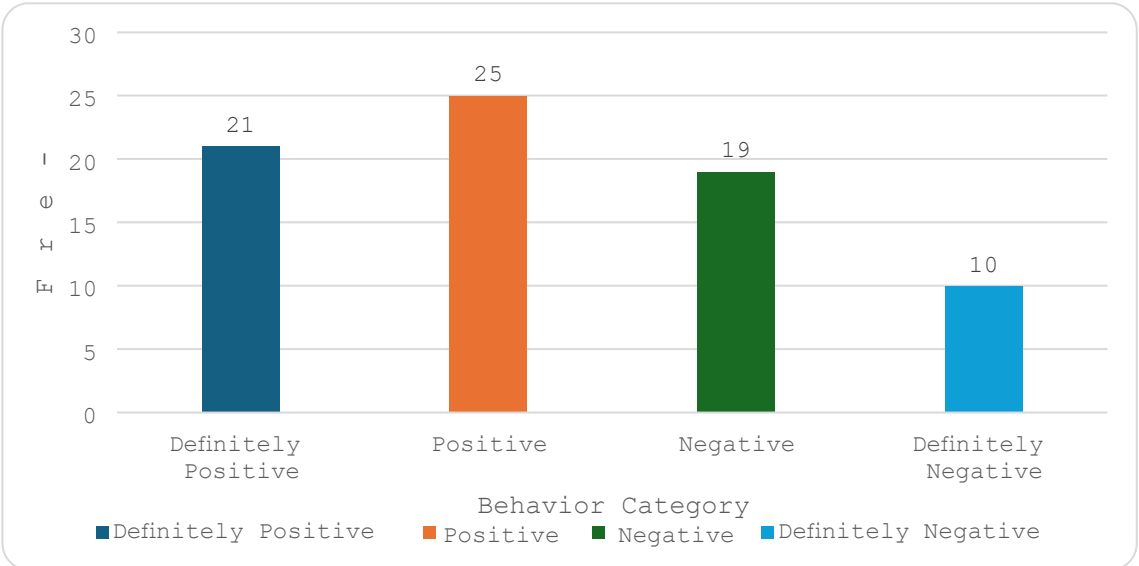

Figure 2. Distribution of child behavior categories according to maternal emotional intelligence levels

Figure 2 shows more children of mothers with higher emotional intelligence tended to show cooperative and positive behavior during the dental procedures, which confirms the role of maternal emotional competence in pediatric dental practices.

3.6 Predictive Effect of Maternal Emotional Intelligence

multiple regression analysis was conducted in order to assess the predictive value of maternal emotional intelligence on child anxiety and behavior taking into consideration the age and gender of the children. The maternal emotional intelligence proved to be an important determinant of child anxiety and behavior. Figure 3 shows the predictive relation between childhood outcomes and maternal emotional intelligence.

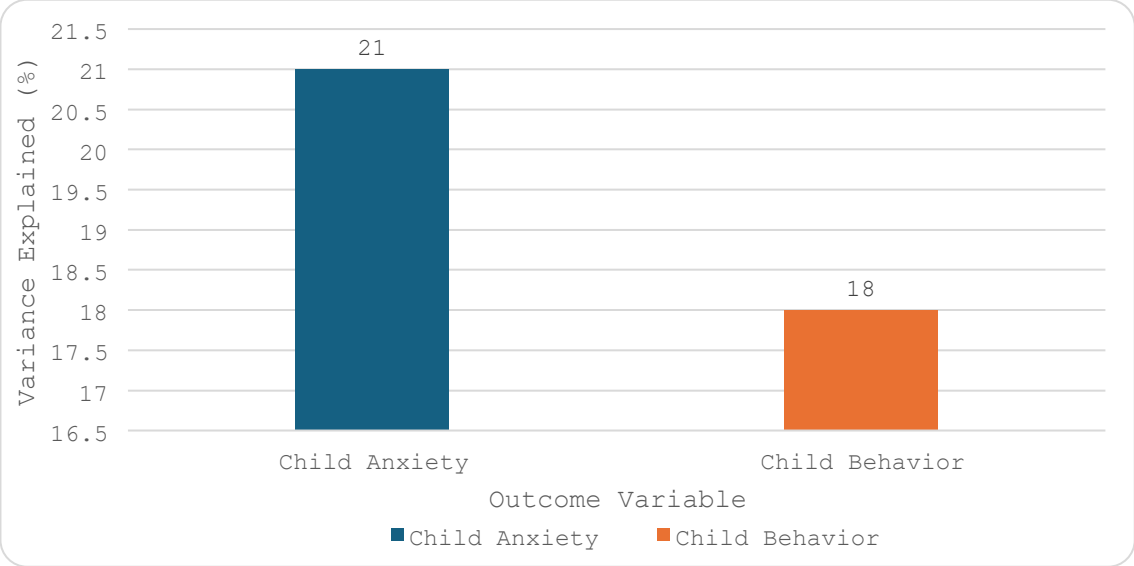

Figure 3. Regression model showing the predictive effect of maternal emotional intelligence on child anxiety and behavior

Figure 3 indicates that, maternal emotional intelligence explained a great proportion of child anxiety scores, which is about 21 per cent, meaning that maternal emotional aspects made significant contribution on dental experiences of kids.

3.7 Key findings

The researchers established a positive correlation between the emotional intelligence of the mothers and the child anxiety and more positive behavioral responses to the pediatric restorative dental procedure. Children who had more emotional intelligence mothers were cooperative and had fewer anxieties. The maternal emotional intelligence also played a significant role in predicting child anxiety and behavior and therefore, should be considered very important in enhancing children dental experiences.

4. Discussion

The current investigation investigated the relationship between maternal emotional intelligence and anxiety and behavior of children undergoing pediatric restorative dental care.[15] The results shown that children whose mothers exhibited a greater degree of emotional intelligence were less exhibited by anxiety and more cooperative.[16] This association helps to underpin that parental emotional competence can be a factor that affects how children perceive stressful healthcare settings.[17] The findings are consistent with the literature on the subject of pediatric dental care in general and the significant role of familyrelated psychosocial factors in child dental experiences. The positive relationship observed between the emotional factors of a mother and child anxiety is in line with the evidence that dental fear isThe likely to be passed across families. Emotional reactions, verbal and coping styles by a mother might impact how a child perceives threat and safety in the treatment process. According to a longitudinal study, dental fear in mothers was correlated with dental fear among adolescents over time, which indicated that the patterns of emotional aspects of parents and children toward dentistry still persisted. Within the framework of the present study, mothers who possess a higher level of emotional intelligence could have possibly improved their own emotional regulation and offered their kids with a feeling of calmness and reassurance, which could have lowered the level of anxiety escalation in the children.

The factors that affect the child dental anxiety are: the age, temperament, past dental experiences, and the parents.[18] The results of this paper are consistent with studies that find the presence of various predictors of dental anxiety among children.[19] An analysis of the risk factors of dental anxiety indicated that dental anxiety is multifactorial and may be predetermined by individual and situational factors, which supports the necessity to introduce variables involving parents in the process of clinical evaluation. In this wider context, maternal emotional intelligence can work as a protective factor, through the facilitation of the supportive emotional modeling process as well as the enhanced coping ability of the child during a dental procedure. Still, behavior in the treatment of restorative care is a clinically significant outcome as it influences the process of success directly and the intentions of the child to resume the care in the future. The relationship noted between maternal emotional intelligence and more positive child behavior in this research study is in line with parenting literature in the field of dentistry. Parenting styles have been attributed to

determineor affect the cooperation of the child and oral health outcomes; supportive parenting styles have been observed to have positive effects on dental behavior and disease risk.[20] Emotional intelligence is likely one of the factors that determine the way mothers convey expectations, provide reassurance, and react to distress and that might influence the behavior of the chairside in real time.

One of the probable reasons behind the relationship observed is the fact that mothers who are more emotionally intelligent might be able to experience or release less parenting related stress in adverse circumstances such as dental treatment. Parenting stress has been linked to dental fear and behavioral problems in dental treatments, and according to this, caregiver strain could be transferred into ineffective emotional support of the child.[21] Emotionally intelligent mothers can cope with stress in the frame of the current research and, thus, this aspect can indirectly influence child behavior and reduce anxiety, especially in the case of restorative procedures that can cause fear. Although the current research was based on emotional intelligence of the mothers and not on behavioral interventions, the results justify the significance of emotional and cognitive preparations in reducing anxiety. It has been proven that preoperative anxiety in children can be minimized by means of structured psychological methods. The cognitive behavioral play therapy has been recorded to be effective in reducing anxiety relative to distraction techniques or a combination of the two, showing that cognitiveemotional regulation strategies can be effective in pediatric patients.[22] Maternal emotional intelligence can be similar to these processes as it inherently is supportive of emotional control in children by reassuring them, empathizing, and offering adaptive coping directions.

Distraction is a very commonly investigated technique to use in order to decrease dental anxiety in children and enhance their cooperation. Studies have shown that cartoonassisted audiovisual diversion has the potential of reducing anxiety and enhancing behavior in the dental treatment, which is why attentionshifting strategies can help relieve distress. Equally, more recent methods involving the use of artificial intelligence to produce animated videos have been explored as supplements to the previous behavioral guidance techniques and it is implied that the improved communication and interaction can decrease dental phobia in children. The results of the current research are applicable to the evidence presented above as emotional competence of the caregiver is also another viable pathway to enhance the emotional and behavioral response of a child. Correct assessment of dental anxiety in children is critical to the interpretation of correlations between psychosocial factors, and clinical behavior. Reliability of the research is enhanced by the use of validated shortform tools that enable consistency of the research in different settings. The construction and testing of the CEDAM8 underlines the significance of strong measures in assessing the experiences of dental anxiety in children both in research and clinical settings.[23] Future research on maternal emotional intelligence can be enhanced with comparative validation of such validated child anxiety instruments with the standardized emotional intelligence measures in order to enhance comparability and replicability.

The current evidence points to the fact that pediatric dentists can consider the emotional traits of caregivers whenpredicting the anxiety of a child and their behavior in the restorative procedure. Identifying mothers with possibleemotional regulation difficulties or stress can assist clinicians to apply early supportive interventions, e.g., improved communication, preintervention counseling, or anxietyreduction preparatory interventions. The inclusion of parentcentered instructions in standard pediatric care can also help to enhance better future dental attitudes and more favorable treatment experiences. Though it is possible to reason that in the study the relationship between maternal emotional intelligence and child outcomes is supported, crosssectional designs cannot determine causality. There is a chance that maternal emotional intelligence could have an effect on child anxiety, yet it is also probable that children with less anxiety can provoke more relaxed and sure caregiving. Longitudinal research in the future would be more informative on directionality and development. Also, understanding the communication between maternal emotional intelligence and interventionbased techniques, including audiovisual distraction or cognitive behavioral preparation, can offer an allinclusive explanation of the anxiety reduction in pediatric dentistry.

5. Conclusion

The current research emphasizes the significant contribution of maternal emotional intelligence to the level of anxiety and behavioural reactions of children undergoing pediatric restorative dental care. The results the point at a lower dental anxiety and more positive and cooperative behavior in the dentist chair of children whose mothers have higher levels of emotional intelligence. This correlation highlights the importance of emotional and psychological elements in the family setting in the definition of the dental experiences of children. Emotional intelligence of the mother could also play a role in enhancing emotional control, reassurance, and supportive communication in stressful experiences like in dental treatment. These qualities may also assist children to feel less fearful of dental procedures and become more effective in dealing with unfamiliar clinical environments. The findings also contribute to the increasing amount of research on the importance of familyfocused interventions in the field of pediatric dentistry, where emotional attributes of caregivers are identified as the factors of influence on child behavior. Clinically, it is possible that recognition of the emotional competence of those who provide care can help pediatric dentists predict child anxiety and provide them with specific behavior management tools. Parental direction and emotional support when incorporated into the daily dental practice can be effective in enhancing treatment compliance and the general patient experience. Longitudinalbased research with bigger sample sizes is suggested in the future to further investigate the causation and the interventions to improve parental emotional intelligence as an intervention to reduce dental anxiety in pediatrics and increase positive dental behavior in children.

References

1. AlDhelai TA, Khalil AM, Elhamouly Y and Dowidar KM. Influence of active versus passive parental presence on the behavior of preschoolers with different intelligence levels in the dental operatory: a randomized controlled clinical trial. BMC Oral Health. 2021; 21(1):420.
2. Alsaadoon AM, Sulimany AM, Hamdan HM and Murshid EZ. The use of a dental storybook as a dental anxiety reduction medium among pediatric patients: a randomized controlled clinical trial. Children. 2022; 9(3):328.

3. Bayón G, Stiernhufvud F, RibasPérez D, Biedma Perea M and Mendoza Mendoza A. Parental anxiety disorders and their impact on dental treatment in children aged 4 to 13 years: a crosssectional observational study. J Clin Med. 2025; 14(6):1869.
4. BesirogluTurgut E, KayaaltiYuksek S and Bulut M. Evaluation of the relationship between dental anxiety and oral health status of mothers and their children. BMC Oral Health. 2024; 24(1):749.
5. Dahlander A, Soares F, Grindefjord M and Dahllöf G. Factors associated with dental fear and anxiety in children aged 7 to 9 years. Dentistry Journal. 2019; 7(3):68.
6. Fu SW, Li S, Shi ZY and He QL. Interrater agreement between children's selfreported and their mothers' proxyreported dental anxiety: a Chinese crosssectional study. BMC Oral Health. 2023; 23(1):139.
7. Ghadimi S, Estaki Z, Rahbar P and Shamshiri AR. Effect of visual distraction on children's anxiety during dental treatment: a crossover randomized clinical trial. Eur Arch Paediatr Dent. 2018; 19(4):239–244.
8. Grisolia BM, Dos Santos APP, Dhyppolito IM, Buchanan H, Hill K and Oliveira BH. Prevalence of dental anxiety in children and adolescents globally: a systematic review with metaanalyses. Int J Paediatr Dent. 2021; 31(2):168–183.
9. Gudipaneni RK, Alzabni KMD, Alrashedi FFA, Alruwaili DHJ, Albalawi FAA, Alanazi AH, et al. The impact of parental dental anxiety and oral health literacy on child oral health and dental-visit patterns: a crosssectional study. BMC Oral Health. 2024; 24(1):853.
10. Henedy SS, Khalil AM, Mahmoud SH and ElHabashy LM. The effect of different parenting styles on the child behavior during the dental visit: observational longitudinal study. BMC Oral Health. 2025; 25(1):342.
11. JervøeStorm PM, Peters LP, Bekes K, Fricke M and Jepsen S. Evaluation of children's anxiety level in relation to a dental visit/treatment and their parents' dental fear. J Clin Med. 2023; 12(20):6691.
12. Khandelwal D. Control of anxiety in pediatric patients using "Tell Show Do" method and audiovisual distraction. J Contemp Dent Pract. 2017; 19(9):1058–1064.
13. Morgan AG, Rodd HD, Porritt JM, Baker SR, Creswell C, Newton T, et al. Children's experiences of dental anxiety. Int J Paediatr Dent. 2017; 27(2):87–97.
14. Petrović D, Cicvarić O, ŠimunovićErpušina M, Ivančić Jokić N, Bakarčić D, Bučević Sojčić P and Jurić H. The role of family factors in the development of dental anxiety in children. Medicina. 2024; 60(1):180.
15. Porritt JM, Morgan A, Rodd H, Gilchrist F, Baker SR, Newton T and Marshman Z. A short form of the Children's Experiences of Dental Anxiety Measure (CEDAM): validation and evaluation of the CEDAM8. Dentistry Journal. 2021; 9(6):71.
16. Rajeswari SR, Chandrasekhar R, Vinay C, Uloopi KS, RojaRamya KS and Ramesh MV. Effectiveness of cognitive behavioral play therapy and audiovisual distraction for management of preoperative anxiety in children. Int J Clin Pediatr Dent. 2019; 12(5):419.
17. Suprabha BS, Sharma H, Shenoy R, Rao A, Shwetha KT and Kaur R. Associations of parenting stress with coping strategies, dental fear, and behaviour during dental treatment in schoolaged children: a crosssectional study. BMC Oral Health. 2025; 25(1):1919.
18. Üstün N, Akgöl BB and Bayram M. Cartoonassisted visual/auditory distraction usage in paediatric dental care, assessment of effects on patient anxiety, pain, and behaviour: a randomised crossover clinical trial. BMC Oral Health. 2025; 25(1):425.
19. Uzel İ, Aydınel B and Ak AT. Evaluation of the risk factors of dental anxiety in children. J Pediatr Res. 2022; 9:99–104.
20. Viswanath S, Asokan S, Geethapriya PR and Eswara K. Parenting styles and their influence on child's dental behavior and caries status: an analytical crosssectional study. J Clin Pediatr Dent. 2020; 44(1):8–14.
21. Vitale MC, Pascadopoli M, Zampetti P, Balbi A and Scribante A. Reducing dental anxiety in children through tellshowdo technique vs. additional instructions withan artificialintelligencebased animated video: randomized clinical trial. J Clin Pediatr Dent. 2025; 49(5).
22. Wong HM, Zhang YY, Perfecto A and McGrath CP. Dental fear association between mothers and adolescents—a longitudinal study. PeerJ. 2020; 8:e9154.
23. Wu L and Gao X. Children's dental fear and anxiety: exploring family related factors. BMC Oral Health. 2018; 18(1):100.