

The relationship of the formation of dental fear between mothers and their 7 to 9-year-old children

Jasmine Kaur Cheema¹, Meirina Gartika², Yetty Herdiyati²

¹Private Practitioner of Setiadentist Clinics, Malaysia

²Department of Paediatric Dentistry, Faculty of Dentistry Universitas Padjadjaran, Indonesia

ABSTRACT

Introduction: Dental fear is a common occurrence that responds to the stress induced by various dental procedures. Its intensity varies from nervousness and anxiety to dental phobia, and it is considered the main barrier to successful completion of treatment. This research aims to analyse the relationship of the formation of dental fear between mother and their 7 to 9-year-old children. **Methods:** The research design was analytical studies with a cross-sectional survey technique, with samples chosen by the simple random sampling method. Thirty-five mothers and children aged 7-9 years who attended Neglasari 2 and Neglasari 5 Public Elementary School, Sadang Serang, Bandung, were the respondents. This study used a questionnaire called the Dental Subscale of the Children's Fear Survey Schedule (CFSS-DS), tested and proven to be a reliable and valid psychometric instrument for dental fear evaluation in children in Bahasa Indonesia. This study was analysed using Spearman's rank correlation coefficient. **Results:** The mean score of the mothers was 24.314, and the mean score of the children was 23.571. The correlation value was 0.765. The figure scales in the 'strong' criteria. **Conclusion:** There is a strong relationship between the formation of dental fear in mothers and their 7-9 years-old children.

Keywords: relationship; mothers; children; dental fear

p-ISSN: 1979-0201; e-ISSN: 2549-6212; Available from: <http://jurnal.unpad.ac.id/pjd/article/view/38870>

DOI: [10.24198/pjd.vol34no1.38870](https://doi.org/10.24198/pjd.vol34no1.38870)

Submission: Mar 27, 2022; Accepted: Mar 31, 2022; Published online: Mar 31, 2022

INTRODUCTION

Dental fear is the fear of being treated by dentists or receiving dental treatment. The fear comes from the equipment and tools used by the dentist to treat their patients. Also, the mask that covers a dentist's mouth scares children because the mask conceals a smile on the dentist's face. Dental fear and anxiety (DFA) is a common occurrence characterised by an essential and

inevitable emotion that appears as a response to various dental procedures.¹ Its intensity varies from one patient to another. It extends from plain nervousness to dental anxiety, produced from a bit of sentiment of fear and can disappear spontaneously or amplify, hence defining dental phobia.^{1,2} Dental fear and anxiety are highly related and are often used interchangeably in the fear literature.³ However, dental fear may be differentiated from dental anxiety by the

**Corresponding author: Jasmine Kaur Cheema, Private Practitioner, Klinik Pergigian Setia (Setiadentist), Malaysia. Jalan Jernai 3, 24, Street Gombak, Medan Idaman Business Centre, 53100 Kuala Lumpur, Guild Territory Kuala Lumpur, Malaysia. Phone: +60 17-602 1492 e-mail: jasminecheemadds@gmail.com*

circumstances in which they occur. Fear is a physiological, emotional and behavioural response to a feared stimulus. Whilst anxiety is a feeling of distress, worry, or unease focused on exposure to a feared stimulus.⁴

Mothers play a huge role in their children's lives. They look up to their mothers. Thus, children will take their mother's word about almost everything. Generally, a dental visit may be classified as a potentially scary situation. Therefore, any evaluation of the situation will be done from that point of view. Supportive comments such as 'It will not hurt,' made by the mother before and during an examination will most likely increase the probability in the child's mind that he/she is going to be hurt. Nevertheless, providing accurate information about possible discomfort is essential, which is best done immediately before the event. Reassuring them with such information a long time in advance may increase their fear of the unknown and increase their anticipation of pain, which leads to undesirable behaviour at the dental clinic.^{1,5}

Prevalence studies describe the incidence of dental fear in children in Northern Europe (3% - 21%), depending on the child's age and the measure of dental fear used.⁶ In general, girls report more fears than boys. There is constant debate about whether this is due to an inherent timidity in girls, their upbringing (adults encourage girls to display their fear and boys to hide it) and boys being less willing than girls to disclose their fears.⁶ In reality, all three factors are probably acting. There is an increase in the number of fears from infancy into young childhood. Some studies show a peak at 11 years old and a general decline in the number of reported fears into adolescence. Some studies have shown an increase in reported fears around the age of 9-11, peaking at 11.^{1,6}

Another study was carried out to evaluate dental fear during the first dental visit using the Dental Subscale of the Children's Fear Survey Schedule (CFSS-DS) between three different age groups; 4 and 6 years, 7 and 9 years, 10 and 14 years children to select fearful and non-fearful children from a larger reference population and to estimate the dental fear in children. There was no significant difference in fear between boys and girls. Fear scores were highest for 'injections', 'choking', 'noise of dentist drilling', and 'dentist

drilling' was not significant between boys and girls, but item 'having somebody look at you' showed a significant difference between boys and girls. This study concludes that dental fear decreases with age. Total fear scores also exhibited no substantial sex difference or age by sex interaction.^{7,8} A new study conducted at the Rey Juan Carlos University of Madrid highlights parents' vital role in transmitting dentist fear in their family.⁹ América Lara Salcido explains that "along with the presence of emotional transmission of dentist fear amongst family members, we have identified the relevant role that fathers play in the transmission of this phobia compared to the mother."

The previous study analysed 183 children between 7 and 12 years and their parents in the Autonomous Community of Madrid. The results align with previous studies, which found that fear levels amongst fathers, mothers and children are interlinked. The authors confirmed that the higher the level of dentist fear or anxiety in one family member, the higher the level in the rest of the family. The study also reveals that fathers play a crucial role in transmitting dentist fear from mothers to their children as they act as a mediating variable.⁹ Consequently, the father's reactions to the dentist could influence the transmission of fear from the mother to the child, whether it be an increase or reduction in anxiety.^{9,10}

One other study was conducted to assess the effect of the mother's past dental experience on the behaviour of some Nigerian children during dental treatment. Observations from this study have revealed that, to a certain extent, mothers' past dental experiences were related to the child's behaviour during dental appointments. Children of mothers with past pleasant dental experiences behaved better than those with traumatic dental experiences.¹¹ This finding was significant at the initial stages of treatment. On entering the operatory, 92.5% of children who had mothers with past pleasurable dental experiences reacted positively compared to 60% whose mothers had unpleasant experiences.¹²

Mothers' dental fear manifests as poor dental health and oral hygiene for themselves and their children.¹³ Dentally fearful mothers brushed their teeth and visited the dentist less frequently than non-fearful mothers. In addition, the child's general fear of dentistry correlated

with maternal ($p=0.004$) and paternal ($p=0.005$) dental fear. A previous study was found that dental health indices, like dmft/ DMFT and dt/DT, were strongly associated with children's general fear of dentistry ($p=0.017$ and $p=0.005$, respectively) and with their fear of invasive ($p=0.025$ and $p=0.001$, respectively) and dt/DT with noninvasive procedures ($p=0.004$).¹⁴ This research aims to analyse the relationship of the formation of dental fear between mother and their 7 to 9-year-old children.

METHODS

The research design was analytical studies with a survey cross-sectional technique where a questionnaire was handed out and then collected for analysis. The population chosen for this research was primary school-goers in a primary school in Bandung, Indonesia. The sampling method was simple random sampling, whereby the classes chosen have the same selection chances as any other classes, using Slovin's Formula.

The inclusion criteria were as follows: students from Neglasari 2 and Neglasari 5 Public Elementary School, Sadang Serang, Bandung, Indonesia, from ages of 7 to 9 and their mothers. Children were aged 7-9 years were chosen because this is the age range in which they would have visited the dentist at least twice; subjects that have visited the dentist more than twice without their mothers accompanying them into the dental examination room. It is more ideal if their mothers did not follow them into the dental examination room, for it is more unbiased and fair to evaluate in the later process. The exclusion criteria were as follows: mentally unfit children because they might not be able to provide complete answers to the questionnaire. Mentally unfit children have unjustifiable fears. Some children withdraw into themselves and become anxious, possibly providing inconsistent answers.

Materials used in this research were: profile form for mothers, which includes; name, age, job, date; Dental Subscale of the Children's Fear Survey Schedule (CFSS-DS); informed consent form. One day prior to the research, the mothers of the 7, 8 and 9-year-old children will be asked to meet in a classroom at the school; then, the purpose of the research was explained to all respondents. Next,

profile forms and informed consent were given to the mothers; afterwards, the questionnaire was read out to them while the researcher marked the answers given. Two weeks after, the mothers were asked to return to answer questions from the CFSS-DS directed to the children by the researcher. When completed, all forms were collected.

The CFSS-DS questionnaire was used during this research for both mothers and children. The questionnaire consisted of 15 questions, tested and proven to be a reliable and valid psychometric instrument for dental fear evaluation in children in Bahasa Indonesia.¹⁵ Each question has to be answered and given a score from 1-5; score 1 was "Not afraid at all"; score 2 was "A little afraid"; score 3 was "A fair amount afraid"; score 4 was "Pretty much afraid"; and score 5 was "Very afraid", which would then be totalled and the mean was calculated. The mean score was used because the interval measurement scale is used in this research.¹⁵

The total mean scores from the answers in the CFSS-DS questionnaire of the mothers and the children were calculated before it underwent statistical analysis. The Spearman's rank correlation coefficient was used to confirm the relationship between the formation of dental fear in mothers and their 7-9-year-old children. The Spearman's rank correlation coefficient is a statistical measure of the strength of a monotonic relationship between paired data.¹⁵ This research has gained ethical approval from the Health Research Ethics Committee of Universitas Padjadjaran, with the approval number of 444/UN6.C1.3.2/KEPK/PN/2016.

RESULTS

There were 11 respondents aged 7-year-olds (31.5%) , 13 respondents aged 8-year-olds (37%), and 11 respondents aged 9-year-olds (31.5%).

The CFSS-DS questionnaire was used during

Table 1. Characteristic of respondents based on age

Age of children (years)	%
7	31.5
8	37
9	31.5
Total	100

Table 2. Mean score of Dental Subscale of the Children's Fear Survey Schedule

Mean score of the mother's answers to the questionnaire	Mean score of the children's answers to the questionnaire
24.314	23.571

Table 2 shows the mean score of the answers from the questionnaire given to both mothers and their 7-9 years-old children. As previously mentioned, this current research was conducted on 35 mothers whose 7-9 children were chosen as subjects for this research. The mothers were first asked to fill out the questionnaire. After having the mothers answer the questionnaire, a 2-week washout period was induced before giving the same questionnaire to be answered by their children. The CFSS-DS has a total score range of 15 - 75, and a score of 38 or more has been associated with clinical dental fear.^{1,4,16}

Twenty-three mothers recorded a minimal score of <26, ten mothers recorded a total score of 27-37, and only two mothers recorded scores of >38; whereas 24 children recorded a minimal score of <26, nine children recorded with a total score of 27-37 and only two children recorded scores of >38. The majority of the children and their mothers, based on the CFSS-DS questionnaire, had a minimum total score proving that they had little or no dental fear. After tallying up the results from both questionnaires, the scores of the mothers and their children are summed up using Spearman's rank correlation coefficient.

Table 3. Correlation of dental fear between mothers and their 7-9-year-old children

Variables	Correlation	p-value
Mothers 7-9-year-old children	0.765	0.000

Table 3 shows the results of the correlation of dental fear between mothers and their 7-9-year-old children. Based on the analysis using Spearman's rank correlation coefficient, the correlation value is 0.765. The figure scales in the 'strong' criteria because it falls in 0.60-0.79.¹⁷ Therefore, there was a strong correlation and significance (p-value <0.05) between dental fear in mothers and their 7-9-year-old children.

DISCUSSION

The current research results presented in Table 3 showed a strong relationship between dental fear in mothers and their 7-9-year-old children. The correlation value of 0.765 based on Spearman's rank correlation coefficient falls in the range 0.60-0.79, which is the "strong" range. These results showed almost similar findings to the research conducted at the Rey Juan Carlos University of Madrid, highlighting parents' vital role in transmitting dentist fear in their family. América Lara Sacido explains that the fathers play the most relevant role in transmitting dental fear amongst family members than the mother. This study was published in the "International Journal of Paediatric Dentistry." The study analysed 183

children between the ages of 7 and 12 and their parents in Madrid's Autonomous Community.⁹ The results from the present study were in line with previous studies, which found that fear levels amongst fathers, mothers and children are interlinked.

The study also reveals that fathers play a crucial role in transmitting dental fear from mothers to their children as they act as a mediating variable. Consequently, the father's reactions to the dentist could influence the transmission of fear from the mother to the child, whether it increases or reduces anxiety. Furthermore, the authors have confirmed that if the level of dental fear in one family member is higher than usual, the level of dental fear in the rest of the family will also be high.⁹ Parents influence dental fear in their children, but it also shows that the environment and social media play an essential role in the children's reactions and behaviour.

Fear in patients still poses a significant problem for dentistry, so detecting and assessing the prevalence of dental fear among child patients with some valid measurement method is necessary.¹⁸ The social situation of the child is likely to be of importance. Children live under different circumstances in modern society,

sometimes also on the margins of society in one aspect or the other.¹⁹

Dental fear problems have been more frequent in subpopulations such as immigrants. Groups with lower socioeconomic standards have also exhibited a higher prevalence of dental anxiety and behaviour management problems.²⁰ It is possible that these differences can be levelled out in countries where organised free dental care for children is provided. Hence, some studies from Sweden and Norway have failed to establish a relationship between socioeconomic variables and dental fear.²¹

One explanation might be that socioeconomic standards in these populations are less affected by oral health. A child who has good oral health runs more negligible risks of caries and filling therapy and thereby a smaller risk of encountering discomfort and pain in the dental situation. Family risk factors (for example, parents not living together or low socioeconomic status) are not presumed to influence children's fear and behaviour, but rather to influence parents' attitudes and behaviour and thereby their ability to guide and support their children during dental treatment.²²

A recent Swedish study among patients referred for specialising pediatric dental care because of dental behaviour management problems reports that the referred children and adolescents more frequently have a "burdensome" life and family situation. Including low socioeconomic status and parents not living together.²³

Another study was carried out to evaluate dental fear during the first dental visit using the Dental Subscale of the Children's Fear Survey Schedule (CFSS-DS) between three different age groups; 4 and 6 years, 7 and 9 years, 10 and 14 years children to select fearful and non-fearful children from a larger reference population and to estimate the dental fear in children.⁷ Dental fear is a particular form of fear, utterly disproportionate to reality, which cannot be explained or voluntarily controlled; if it persists, they may permanently avoid this provocative situation. Dental fear is constantly met among children younger than three years, but it also appears in older children registering a maximum frequency at around 11 years of age and declining towards adolescence.²⁴

Children may acquire dental fear through social learning from siblings, other relatives and friends. Apart from transmitting subtle feelings of fear and anxiety to their children, fearful parents sometimes also interfere with their child's dental treatment, for example, by questioning the need for injections or restorative treatments or may give accounts from their own negative experiences. They may serve as live and powerful negative models of dental fear for their children on these occasions.¹⁹

Studies among adult odontophobia patients^{25,26} have reported that opposing families were common reasons for developing odontophobia. Dental fear and anxiety problems start in childhood for many adult patients, often even before their first dental visit.²⁷ Based on Table 2, the mean score of mothers and children are 24.314 and 23.571, respectively. This result proves that maternal dental fear strongly correlates with the children's fear of the dentist.

Extreme dental fear is a universal problem. It leads to avoiding dental treatment and the adverse consequences to the patient's oral and psychological health.⁷ Dental fear is defined as specific anxiety, which is the predisposition for a negative experience in dental surgery.¹ Dental fear may cause frequent and severe problems for both patient and dentist. The aetiology of dental fear in children is multifactorial. It is complex and plentiful.

Dental fear has been related to personality, increased general fears, previous painful dental experiences, parental dental fear, age and gender. Female children and younger children are often more fearful than male children and older children.²⁸ Based on the study conducted by Shao et al. in 2016²⁹, children who had corresponded with someone with an unpleasant dental experience had significantly negative behaviour towards the dentist. The people that children seek advice from before seeing a dentist make a massive difference because the facial expressions and words the other use to explain their experience stick in a child's mind.³⁰

Furthermore, daunting remarks made by other children and adults have resulted in children behaving in a troublesome manner at the dental clinic.³¹ Therefore, it is essential for mothers

and family members never to be harmful when speaking of a dentist or dental treatments because it is very subjective. Putting out negative remarks about an unpleasant experience will make going to the dentist even harder, leading to a society with poor oral hygiene.³¹

The mother is an important figure in the family and is usually considered the foundation. Although everyone in the family can affect a child's behaviour, the mother acquires the most crucial role in helping the child develop expected behaviour patterns because the mother-child relationship is significant in early development.³² The mother can be a determinant of the phobia reaction in a child. Many adults often express their fear and dislikes of dental treatment in front of their children, and this model may serve as an example on which they base their behaviour.

Based on the correlation value of 0.765 presented in Table 3, a strong relationship was proven between the formation of dental fear in mothers and their 7-9-year-old children. With that being said, children are very impressionable and susceptible to imitating models in their environment. Research on parental fearfulness and modelling in children's fear has revealed that fearful mothers who often expressed their fears were very fearful themselves.³³

The current research suggests that mothers share positive outcomes with their children to give them a positive mindset before going to the dentist. Also, during the dental treatment, if a mother finds it difficult to conceal her fear in front of her child, she should wait in the waiting area while her child is being treated or stand behind his/her head so that the child does not witness a sudden flinch from the mother.

CONCLUSIONS

There is a strong relationship between dental fear in mothers and their 7-9-year-old children. If the mothers fear the dentist or a dental procedure, their children will have a high tendency of dental fear.

REFERENCES

1. Rath S, Das D, Sahoo SK, Raj A, Guddala NR, Rathee G. Childhood dental fear in children

aged 7-11 years old by using the Children's Fear Survey Schedule-Dental Subscale. *J Med Life*. 2021;14(1):45-49. DOI: [10.25122/JML-2020-0084](https://doi.org/10.25122/JML-2020-0084)

2. Alshuaibi AF, Aldarwish M, Almulhim AN, Lele GS, Sanikommu S, Raghunath RG. Prevalence of dental fear and anxiety and its triggering factors in the dental office among school-going children in Al Ahsa. *Int J Ped Dent*. 2021;14(2):286-292. DOI: [10.5005/JP-JOURNALS-10005-1925](https://doi.org/10.5005/JP-JOURNALS-10005-1925)
3. Asl AN, Shokravi M, Jamali Z, Shirazi S. Barriers and drawbacks of the assessment of dental fear, dental anxiety and dental phobia in children: A critical literature review. *J Clin Ped Dent*. 2017;41(6):399-423. DOI: [10.17796/1053-4628-41.6.1](https://doi.org/10.17796/1053-4628-41.6.1)
4. Carrillo-Díaz M, Migueláñez-Medrán BC, Nieto-Moraleda C, Romero-Maroto M, González-Olmo MJ. How can we reduce dental fear in children? The importance of the first dental visit. *Child*. 2021;8(12):3-9. DOI: [10.3390/children8121167](https://doi.org/10.3390/children8121167)
5. Coté CJ, Wilson S, Pediatrics AA of, Dentistry AA of P. Guidelines for monitoring and management of pediatric patients before, during, and after sedation for diagnostic and therapeutic procedures: Update 2016. *Pediatrics*. 2016;138(1):e20161212. DOI: [10.1542/PEDS.2016-1212](https://doi.org/10.1542/PEDS.2016-1212)
6. Shim Y-S, Kim A-H, Jeon E-Y, An S-Y. Dental fear & anxiety and dental pain in children and adolescents; a systemic review. *J Dent Anesth Pain Med*. 2015;15(2):53-61. DOI: [10.17245/JDAPM.2015.15.2.53](https://doi.org/10.17245/JDAPM.2015.15.2.53)
7. Raj S, Aradhya K, Nagakishore V. Evaluation of dental fear in children during dental visit using Children's Fear Survey Schedule-Dental Subscale. *Int J Clin Pediatr Dent*. 2013;6(1):12-15. DOI: [10.5005/jp-journals-10005-1178](https://doi.org/10.5005/jp-journals-10005-1178)
8. Alsadat FA, El-Housseiny AA, Alamoudi NM, Elderwi DA, Ainoso AM, Dardeer FM. Dental fear in primary school children and its relation to dental caries. *Niger J Clin Pr*. 2018;21(11):1454-1460. DOI: [10.4103/NJCP.NJCP_160_18](https://doi.org/10.4103/NJCP.NJCP_160_18)
9. Lara A, Crego A, Romero-Maroto M. Emotional contagion of dental fear to children: The fathers' mediating role in parental transfer of fear. *Int J Ped Dent*. 2012;22(5):324-330.

- DOI:[10.1111/J.1365-263X.2011.01200.X](https://doi.org/10.1111/J.1365-263X.2011.01200.X)
10. Coric A, Banozic A, Klaric M, Vukojevic K, Puljak L. Dental fear and anxiety in older children: An association with parental dental anxiety and effective pain coping strategies. *J Pain Res.* 2014;7:515-521. DOI:[10.2147/JPR.S67692](https://doi.org/10.2147/JPR.S67692)
 11. Torriani DD, Ferro RL, Bonow MLM, et al. Dental caries is associated with dental fear in childhood: Findings from a birth cohort study. *Caries Resresearch.* 2014;48(4):263-270. DOI:[10.1159/000356306](https://doi.org/10.1159/000356306)
 12. Memarpour M, Soltanimehr E, Eskandarian T. Signs and symptoms associated with primary tooth eruption: A clinical trial of nonpharmacological remedies. *BMC Oral Health.* 2015;15(1):88. DOI:[10.1186/S12903-015-0070-2](https://doi.org/10.1186/S12903-015-0070-2)
 13. Busato P, Garbin RR, Santos CN, Paranhos LR, Rigo L. Influence of maternal anxiety on child anxiety during dental care: cross-sectional study. *Sao Paulo Med J.* 2017;135(2):116-122. DOI:[10.1590/1516-3180.2016.027728102016](https://doi.org/10.1590/1516-3180.2016.027728102016)
 14. Olak J, Nguyen MS, Nguyen TT, Nguyen BBT, Saag M. The influence of mothers' oral health behaviour and perception thereof on the dental health of their children. *EPMA J.* 2018;9(2):187. DOI:[10.1007/S13167-018-0134-X](https://doi.org/10.1007/S13167-018-0134-X)
 15. Suzy A, Amriwijaya J, Fitriana E. Trans-adapted, reliability, and validity of children fear survey schedule-dental subscale in Bahasa Indonesia. *Dent J (Maj Ked Gi).* 2015; 48(1): 1-6. DOI: [10.20473/j.djmk.v48.i1.p1-6](https://doi.org/10.20473/j.djmk.v48.i1.p1-6)
 16. Pohjola V, Kunttu K, Virtanen JI. Psychological distress, dental health, and dental fear among Finnish university students: A national survey. *Int J Env Res Public Heal.* 2021;18(19):10245. DOI:[10.3390/IJERPH181910245](https://doi.org/10.3390/IJERPH181910245)
 17. Wong HM, Bridges SM, Yiu CKY, Mcgrath CPJ, Au TK, Parthasarathy DS. Validation of the Hong Kong Oral Health Literacy Assessment Task for Paediatric Dentistry (HKOHLAT-P). *Int J Ped Dent.* 2013;23(5):366-375. DOI:[10.1111/IPD.12021](https://doi.org/10.1111/IPD.12021)
 18. AlDhelai TA, Khalil AM, Elhamouly Y, Dowidar KML. Influence of active versus passive parental presence on the behavior of preschoolers with different intelligence levels in the dental operator: A randomised controlled clinical trial. *BMC Oral Health.* 2021;21(1):420. DOI:[10.1186/S12903-021-01781-Z](https://doi.org/10.1186/S12903-021-01781-Z)
 19. Gao X, Hamzah SH, Yiu CKY, McGrath C, King NM. Dental fear and anxiety in children and adolescents: Qualitative study using YouTube. *J Med Internet Res.* 2013;15(2):e29. DOI:[10.2196/JMIR.2290](https://doi.org/10.2196/JMIR.2290)
 20. Sathyaprasad S, Lalugol SS, George J. Prevalence of dental anxiety and associated factors among Indian children. *Pesq Bras Odont Clin Integr.* 2018;18(1):1-10. DOI:[10.4034/PBOCI.2018.181.65](https://doi.org/10.4034/PBOCI.2018.181.65)
 21. Holde GE, Baker SR, Jönsson B. Periodontitis and quality of life: What is the role of socioeconomic status, sense of coherence, dental service use and oral health practices? An exploratory theory-guided analysis on a Norwegian population. *J Clin Periodontol.* 2018;45(7):768-779. DOI:[10.1111/JCPE.12906](https://doi.org/10.1111/JCPE.12906)
 22. Wu L, Gao X. Children's dental fear and anxiety: Exploring family related factors. *BMC Oral Health.* 2018;18(1):100. DOI:[10.1186/S12903-018-0553-Z](https://doi.org/10.1186/S12903-018-0553-Z)
 23. Gustafsson A, Persson C, Källestål C. Factors associated to non-attendance to dental care among adolescents—Suggesting a model. *Psychology.* 2018;09(13):2731-2751. DOI:[10.4236/psych.2018.913157](https://doi.org/10.4236/psych.2018.913157)
 24. Chapman HR, Kirby-Turner N. Psychological intrusion - An overlooked aspect of dental fear. *Front Psychol.* 2018;9:501. DOI:[10.3389/FPSYG.2018.00501](https://doi.org/10.3389/FPSYG.2018.00501)
 25. Kämppi A, Tanner T, Viitanen O, et al. Association of dental fear with caries status and self-reported dentition-related well-being in Finnish conscripts. *Dent J.* 2022;10(3):45. DOI:[10.3390/DJ10030045](https://doi.org/10.3390/DJ10030045)
 26. Lin CS, Lee CY, Chen LL, Wu LT, Yang SF, Wang TF. Magnification of fear and intention of avoidance in non-experienced versus experienced dental treatment in adults. *BMC Oral Health.* 2021;21(1):328. DOI:[10.1186/S12903-021-01682-1](https://doi.org/10.1186/S12903-021-01682-1)
 27. Carter AE, Carter G, Boschen M, AlShwaimi E, George R. Pathways of fear and anxiety in dentistry: A review. *World J Clin Cases.* 2014;2(11):642-653. DOI:[10.12998/WJCC.V2.I11.642](https://doi.org/10.12998/WJCC.V2.I11.642)
 28. Shindova MP, Belcheva AB. Dental fear and anxiety in children: A review of the environmental factors. *Folia Med.*

- 2021;63(2):177-182. DOI:[10.3897/FOLMED.63.E54763](https://doi.org/10.3897/FOLMED.63.E54763)
29. Shao A, Kahabuka F, Mbawalla H. Children's behaviour in the dental setting according to Frankl behaviour rating and their influencing factors. J Dent Sci. 2016;1(1):1-12. DOI:[10.23880/oajds-16000103](https://doi.org/10.23880/oajds-16000103)
30. Gurunathan D, Shanmugaavel AK. Dental neglect among children in Chennai. J Indian Soc Pedod Prev Dent. 2016;34(4):364-369. DOI:[10.4103/0970-4388.191420](https://doi.org/10.4103/0970-4388.191420)
31. Szilagyi MA, Rosen DS, Rubin D, et al. Health care issues for children and adolescents in foster care and kinship care. Pediatrics. 2015;136(4):e1142-e1166. DOI:[10.1542/PEDS.2015-2656](https://doi.org/10.1542/PEDS.2015-2656)
32. Xu L, Liu L, Li Y, Liu L, Huntsinger CS. Parent-child relationships and Chinese children's social adaptations: Gender difference in parent-child dyads. Pers Relatsh. 2018;25(4):462-479. DOI:[10.1111/PERE.12254](https://doi.org/10.1111/PERE.12254)
33. Liss M, Schiffrin HH, Rizzo KM. Maternal guilt and shame: The role of self-discrepancy and fear of negative evaluation. J Child Fam Stud. 2013;22:1112-1119. DOI:[10.1007/s10826-012-9673-2](https://doi.org/10.1007/s10826-012-9673-2)