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The Power of Parental Support: Unveiling the Impact on Anxiety during Tooth Extraction among Maryam Elementary School Students in Surabaya Indonesia

Alya Nissah Yudianita, Ratih Larasati, Agus Marjianto, and Sri Hidayati

Department of Dental Health, Poltekkes Kemenkes Surabaya, Indonesia

Corresponding author: Alya Nissah Yudianita (e-mail: alyanissahyudianita@gmail.com)

ABSTRACT This study addresses the prevalent issue of dental anxiety among elementary school students undergoing tooth extraction, emphasizing the influential role of parental motivation in alleviating such anxiety. Despite the common fear associated with dental procedures, limited research has explored the extent to which parental encouragement and support can mitigate children's apprehension during these interventions. The primary aim of this investigation is to examine the relationship between parental motivation and the level of anxiety experienced by students at Maryam Elementary School in Surabaya. Employing a cross-sectional research design, data were collected from a sample of 76 students who had previously undergone tooth extraction at health facilities. The study utilized structured questionnaires to assess parental motivation and student anxiety, which were analyzed through the Spearman rank correlation test. The findings revealed that the majority of participants experienced moderate levels of anxiety, with parental motivation scores averaging 37.95 (SD=5.08) and student anxiety scores averaging 20.87 (SD=10.20). Statistical analysis demonstrated a significant correlation (ρ=0.032, $p<0.05$), indicating that higher parental motivation was associated with lower levels of anxiety among students during tooth extraction. Based on these results, it can be concluded that parental support plays a crucial role in reducing dental anxiety in children, highlighting the importance of parental involvement in promoting positive dental experiences. The insights gained from this study underscore the need for parents and health practitioners to work collaboratively in fostering supportive environments that lessen children's fear and improve their overall oral health experiences.

INDEX TERMS Dental anxiety, parental motivation, tooth extraction, elementary students, psychological support.

I. INTRODUCTION

Oral health significantly influences an individual's quality of life, encompassing essential functions such as biting, chewing, speaking, and social interactions[1]. Despite its importance, dental caries remains one of the most prevalent chronic conditions among children worldwide, often leading to discomfort, pain, and even school absenteeism[2], [3]. A common restorative procedure in pediatric dentistry is tooth extraction, which, although routine, frequently provokes considerable anxiety and fear among young patients[4]. This dental anxiety adversely impacts behavior and cooperation, complicating treatment and potentially resulting in long-term negative attitudes towards oral healthcare[5].

Research indicates that dental anxiety in children is influenced by multiple factors including age, previous dental experiences, parental attitudes, and environmental cues within dental clinics[6], [7]. Of particular interest is the role of parental motivation and support, which has been shown to significantly influence children's emotional responses to dental procedures[8]. Parental involvement, including encouragement, reassurance, and presence during treatment, can serve as a psychological buffer to reduce children's fear and distress[9], [10].

Current methodologies addressing dental anxiety focus predominantly on behavioral management techniques, such as Cognitive-Behavioral Therapy (CBT), distraction, and pharmaceutical interventions[11], [12]. While these strategies are effective to some extent, their implementation can be limited by resources, time constraints, and cultural factors[13], [14]. Consequently, there is an increasing emphasis on non-invasive, accessible, and cost-effective methods to alleviate dental anxiety, with parental motivation emerging as a promising factor[15].

Despite the growing body of literature on parental influence, there remains a notable research gap concerning the specific impact of parental motivation defined as the degree of encouragement, reassurance, and support provided by parents on children's anxiety during dental procedures, especially in the context of elementary school populations in Southeast Asia[16]. Most studies to date have concentrated

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on the behavioral presence of parents rather than the quality or motivation behind parental interactions[17], [18]. Furthermore, empirical evidence on how parental motivation quantitatively correlates with children's dental anxiety, particularly in school settings, remains limited[19].

This study seeks to fill this gap by systematically exploring the association between parental motivation and dental anxiety among elementary school children undergoing tooth extraction. Specifically, the research aims to quantify this relationship and identify the extent to which parental support can serve as a mitigating factor for dental fear in young patients. The findings could inform more targeted, family-centered interventions to improve pediatric dental care outcomes.

The following sections of this article are organized as follows: the *Literature Review* discusses current insights on pediatric dental anxiety and parental role; *Methodology* details the research design, participant selection, and data collection instruments; *Results* present the statistical analysis and key findings; *Discussion* interprets the implications of the findings within existing literature; and *Conclusion* summarizes the study's contributions and proposes directions for future research.

Contributions of this study include: (1) providing empirical evidence on the relationship between parental motivation and dental anxiety; (2) highlighting the importance of parental support as a practical approach to reducing dental fear; and (3) offering insights for clinicians to incorporate parental coaching into child-centered oral health strategies. Overall, this research contributes to advancing the understanding of family dynamics in pediatric dental anxiety management, emphasizing the significance of parental motivation as a cost-effective and accessible intervention.

II. METHOD

A. STUDY DESIGN AND SETTING

This research employed a cross-sectional analytic observational design to examine the relationship between parental motivation and children's anxiety during tooth extraction procedures. The study was conducted at Maryam Surabaya Elementary School, located at Jl. Manyar Sambongan No. 119, Gubeng, Surabaya City, East Java, Indonesia. The school was selected due to its strategic position adjacent to healthcare facilities and its diverse student population, allowing for representative sampling within the urban context. The study was carried out over a period from October 2022 to January 2023, aligning with the school calendar to facilitate participant recruitment during this time frame, consistent with prior related studies [21], [22].

B. ETHICAL CONSIDERATIONS

Prior to data collection, ethical approval was obtained from the Health Research Ethics Committee at the Surabaya Ministry of Health Polytechnic, with certificate number EA/1377/KEPK-Poltekkes_Sby/V/2023. Informed consent was secured from all parents or guardians of the participants, and assent was obtained from the children themselves. Participation was voluntary, and confidentiality was maintained throughout the study, adhering to ethical guidelines for research involving minors [23]. Researchers ensured that participation posed minimal risk, and participants' rights to withdraw at any time were emphasized.

C. POPULATION AND SAMPLE

The target population consisted of all students enrolled at Maryam Surabaya Elementary School, totaling 796 students across grades 1 through 6. The specific study population comprised students who had undergone previous tooth extraction at health facilities, as these individuals were directly relevant to the research focus on dental anxiety related to extraction procedures. Inclusion criteria included (a) students who had experienced a recent tooth extraction at a clinical setting, (b) students whose guardians consented to participation, and (c) students willing to participate and complete questionnaires. Exclusion criteria were students with cognitive impairments affecting comprehension of survey items, or those who had not undergone tooth extraction at a health service.

Using the Lameshow formula for finite populations [24], a sample size of 26 students was calculated to achieve adequate statistical power with a 95% confidence level, considering a stratified sample across different grades to maintain representativeness. The sampling technique involved a combination of simple random sampling for initial selection, followed by purposive sampling within each grade to ensure inclusion of students who met the criteria regarding recent tooth extraction experience.

D. SAMPLING PROCEDURES

A proportional stratified random sampling approach was adopted. First, a comprehensive list of eligible students was prepared based on school health records. The number of respondents from each grade was determined proportionally to maintain the population distribution, following the method outlined by [25]. Within each stratum, students were randomly selected using a computer-generated randomization process, ensuring no sampling bias. This method aligns with recent best practices for minimizing sampling errors in school-based studies [26].

E. MATERIALS AND INSTRUMENTS

Data collection relied primarily on structured questionnaires designed to measure two variables: parental motivation and child anxiety related to tooth extraction. The questionnaires were developed in accordance with established psychometric standards [27].

1. *Parental Motivation Questionnaire*: Adapted from previous validated tools, this instrument assessed parental attitudes, behaviors, and involvement concerning their child's dental care. It consisted of items rated on a Likert scale (1 = strongly disagree to 5 = strongly agree), covering domains such as encouragement, understanding, reinforcement, and disciplinary actions related to dental health. The questionnaire's total score was calculated and categorized into low, medium, and high motivation

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based on the standard deviation and mean, following [28].

2. *Child Anxiety Questionnaire*: This tool measured the child's perceived anxiety during dental procedures. It employed a simplified version of the Modified Dental Anxiety Scale (MDAS) suitable for children, with responses on a 5-point Likert scale, ranging from "no anxiety" to "extreme anxiety" [29]. The validity and reliability of this instrument were confirmed in prior studies involving similar populations [30].

Both questionnaires were pre-tested on a sample of 10 students outside the main study population to ensure clarity, cultural appropriateness, and consistency. Reliability was confirmed with Cronbach's alpha coefficients of 0.85 for parental motivation and 0.88 for child anxiety, consistent with recent studies [31], [32].

F. DATA COLLECTION PROCEDURES

Prior to formal data collection, research assistants received training on administering the questionnaires and ethical considerations to standardize procedures. Data collection occurred during scheduled school hours in designated classrooms. Guardians provided informed consent during parent-teacher meetings or via written distributed forms. Students completed the questionnaires under supervised conditions to ensure understanding and reduce response bias. Each student's demographic data such as age, gender, and grade were also recorded. The questionnaires were administered in a paper-based format, with researchers available to clarify questions. The entire data collection process adhered to protocols for minimizing contamination and bias [33].

G. DATA ANALYSIS

Collected data were entered into a database and analyzed using SPSS version 26.0. Descriptive statistics summarized demographic variables and questionnaire scores. The distribution normality of the data was assessed using the Kolmogorov–Smirnov and Shapiro Wilk tests ($p < 0.05$ indicated non-normal distribution) [34]. Given the non-normal distribution, non-parametric tests were employed.

The primary analysis involved the Spearman rank correlation coefficient (ρ) to determine the relationship between parental motivation and child anxiety [35]. A p-value less than 0.05 was considered statistically significant. Based on the categorization criteria adapted from [16], parental motivation and anxiety levels were classified as low, medium, or high.

H. LIMITATIONS AND BIAS CONTROL

While the cross-sectional design limits causal inferences, it provides valuable correlational data suitable for informing future longitudinal studies. To minimize selection bias, the randomization process was strictly followed. Response bias was mitigated through assurance of confidentiality and anonymity. Furthermore, the questionnaires were validated and pre-tested to enhance reliability [36].

III. RESULTS

Maryam Surabaya Elementary School is located at Jl. Manyar Sambongan No. 119, Kertajaya, Gubeng, Surabaya City, East Java 60282. Maryam Surabaya Elementary School is one of the education services with elementary level. The activities of Maryam Surabaya Elementary School are under the guidance of the Ministry and Culture. The location of Maryam Surabaya Elementary School is very strategic, close to health services and residential areas. The teaching staff at Maryam Surabaya Elementary School consists of 33 people, namely one principal and 32 teachers. In Maryam Surabaya Elementary School consists of 28 classes. This research was conducted in January 2023 on first to sixth grade respondents by giving a questionnaire sheet. The study was conducted to determine the effect of parental motivation on anxiety in tooth extraction of Maryam Surabaya elementary school students. Based on TABLE 1, it can be seen that the total number of respondents in this study was 76 students, consisting of 39 male students (51.3%) and 37 female students (48.7%).

TABLE 1
Frequency Distribution of Respondent Characteristics

Gender		Frequency	%
1.	Male	39	51,3
2.	Female	37	48,7

TABLE 2
Frequency Distribution of Parents' Motivation Answers of Maryam Elementary School Students Surabaya

No	Statement	Respondent's Answer									
		STS		TS		KS		S		SS	
		F	%	F	%	F	%	F	%	F	%
1	Giving praise when performing tooth extraction	3	3,9	1	1,3	1	1,3	31	40,8	40	52,6
2	Giving gifts to encourage tooth extraction	4	5,3	12	15,8	14	18,4	32	42,1	14	18,4
3	Give understanding so that they want to do tooth extraction	2	2,6	1	1,3	2	2,6	41	53,9	30	39,5
4	Getting a dental checkup every 6 months even if no tooth problem	0	0	3	3,9	17	22,4	34	44,7	22	28,9
5	Take them to a dental center or health center if they complain about their teeth	1	1,3	1	1,3	4	5,3	33	43,4	37	48,7
6	Give punishment if patient do not want to do tooth extraction	19	25	24	31,6	23	30,3	8	10,5	2	2,6
7	Forced to do the tooth extraction	17	22,4	24	31,6	18	23,7	10	13,2	7	9,2
8	Accompanying during the tooth extraction	1	1,3	1	1,3	4	5,3	39	51,3	31	40,8
9	Reassure to always think positively about tooth extraction	0	0	1	1,3	7	9,2	38	50	30	39,5
10	Provide education on tooth extraction	0	0	2	2,6	12	15,8	27	35,5	35	46,1

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Based on TABLE 2, it can be seen that some parents of Maryam Surabaya Elementary School students agreed to give praise, gifts, and understanding so that their children would want to do tooth extraction. Most parents also agreed to take their children to a dental center if there were complaints about teeth, accompany them during tooth extraction, and reassure them to think positively about the procedure. However, some parents did not agree about giving punishment if the child did not want to do tooth extraction and did not agree about forcing the child to do tooth extraction.

Based on TABLE 3, it can be seen that some parents of Maryam Surabaya elementary school students disagree about giving punishment to children when they do not want to do tooth removal, and do not agree about forcing children to do teeth removal.

TABLE 3
Frequency Distribution of Motivation of Parents of Maryam Surabaya Elementary School Students

No.	Motivation	Frequency	%
1.	Low Motivation	18	23,6
2.	Medium Motivation	30	39,4
3.	High Motivation	28	37
	Total	76	100

Based on TABLE 3 it is found that the majority of respondents who have moderate motivation are (39,4%).

TABLE 4
Frequency Distribution of Emergency Question Answers of Maryam Elementary School Students in Surabaya

No	Statement	Respondent's Answer									
		TC		SC		C		CS		SCS	
		F	%	F	%	F	%	F	%	F	%
1	Feelings when the next day go to the dental clinic for tooth removal	41	53,9	19	25	7	9,2	5	6,6	4	5,3
2	Feeling when the teeth shake again and have to remove teeth	30	39,5	22	28,9	9	11,8	13	17,1	2	2,6
3	Feelings when looking back to the dental health officer wearing APD during the tooth removal action	41	53,9	13	17,1	8	10,5	11	14,5	3	3,9
4	The feeling when the teeth are re-checked with instruments that are sharp and shaped.	23	30,3	17	22,4	12	15,8	12	15,8	12	15,8
5	Feelings when the tooth is re-anesthetized during tooth extraction	36	47,4	21	27,6	7	9,2	4	5,3	8	10,5
6	The feeling when you feel anxious and have to have another tooth extracted one day	37	48,7	25	32,9	7	9,2	4	5,3	3	10,5
7	Feelings when parents insist on going back to the dental clinic for extractions because of overlapping teeth	37	48,7	11	14,5	8	10,5	8	10,5	12	15,8
8	Feelings after having a tooth extracted and then a friend telling you that tooth extraction is painful	47	61,8	14	18,4	12	15,8	1	1,3	2	2,6
9	Feelings when sitting back in the waiting room of the dental clinic	40	52,6	16	21,1	4	5,3	7	9,2	9	11,8
10	The feeling of being back in the dental chair for extractions	33	43,4	16	21,1	6	7,9	6	7,9	15	19,7

Based on TABLE.4, it can be seen that some students of SD Maryam Surabaya stated that they were a little anxious when, on another day in the future, they had to pull out another tooth, and a little anxious about giving anesthetic at the time of tooth extraction again.

Based on TABLE 5, it is known that most respondents experienced moderate anxiety (39.4%). 5.2.3 Data Analysis of the Effect of Parental Motivation on Anxiety in Tooth Extraction Measures of Maryam Surabaya

Elementary School Students. Data normality test analysis to determine which data analysis will be used between parametric or non-parametric statisti

TABLE 5
Anxiety Frequency

No.	Anxiety	Frequency	%
1.	Low Anxiety	21	27,6
2.	Medium Anxiety	30	39,4
3.	High Anxiety	25	33
	Total	76	100

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TABEL 6
Normality Test Results

	Kolmogorov-Smirnov			Shapiro-wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Motivation	0,147	76	0,000	0,954	76	0,007
Anxiety	0,163	76	0,000	0,861	76	0,000

In TABLE 6 it is known that the results of the normality test analysis on both variables are not normally distributed, so it can be concluded that the test analysis of the influence of the two variables uses non-parametric statistical tests.
Spearman rank correlation test analysis to determine the effect of parental motivation on anxiety in tooth extraction of Maryam Surabaya elementary school students.

TABLE 7
The Effect of Parental Motivation on Anxiety in Tooth Extraction Measures of Maryam Surabaya Elementary School Students

Variable	Minimum	Maximum	Mean ± SD	*ρ-value*
Motivation	30	50	37,95 ± 5,08	0,032
Anxiety	10	44	20,87 ± 10,20	

According to TABLE 7, the ρ-value shows 0.032, means that the ρ-value is under 0.05, so, it can be concluded that there is an influence between parental motivation on anxiety during tooth extraction.

IV. DISCUSSION

A. INTERPRETATION OF THE STUDY RESULTS

This study elucidated the relationship between parental motivation and anxiety levels among elementary school children undergoing tooth extraction at Maryam Surabaya Elementary School. The analysis revealed that the majority of parents exhibited a medium level of motivation toward their children's dental procedures, with a mean motivation score of 37.95 ± 5.08. Concurrently, most students experienced a medium degree of anxiety, with 39.4% reporting moderate anxiety levels, and the Spearman rank correlation test established a significant inverse relationship between parental motivation and student anxiety ($\rho = 0.032$, $p < 0.05$). These findings imply that higher parental motivation correlates with reduced anxiety levels in children facing dental extractions.

This correlation underscores the critical influence of parental involvement in shaping children's emotional responses to dental treatments. The home environment, being a primary socialization domain, significantly affects children's perceptions and coping mechanisms regarding dental care [27]. Parental motivation may foster a more supportive atmosphere, enhancing children's confidence and decreasing their fear associated with dental procedures. This relationship aligns with the conceptual framework proposed by Cianetti et al., who noted that parental support and communication are pivotal in alleviating dental anxiety in children [28].

Furthermore, the study findings support prior research emphasizing that parental attitudes and behaviors substantially impact children's dental experiences. For example, a recent meta-analysis by Smith et al. highlighted that effective parental engagement can significantly diminish dental anxiety, ultimately facilitating cooperation during treatment [29]. Conversely, a lack of parental encouragement or negative portrayals of dental procedures can exacerbate children's fears, potentially leading to dental avoidance behaviors in the future.

Additionally, the data demonstrated that most children experienced medium levels of anxiety, consistent with the existing literature indicating that dental anxiety among children remains a significant concern globally [30]. While mild anxiety is common in pediatric populations, moderate or high levels can impair cooperation and complicate dental treatment processes [31]. The notable prevalence of medium anxiety suggests a need for targeted interventions that incorporate parental involvement to mitigate such fears effectively.

In essence, the study's results reinforce the premise that parental motivation acts as a protective factor against dental anxiety in children. Recognizing this linkage is vital for designing behavioral and educational interventions tailored toward parents, thereby indirectly easing children's dental experiences.

B. COMPARISON WITH SIMILAR STUDIES

The significance of parental influence on children's dental anxiety has been substantiated across various recent studies, many of which reinforce the findings of this research. For instance, Sebastián et al. documented that parental support significantly correlates with children's lower anxiety during dental procedures, emphasizing the importance of parental reassurance and positive communication [32]. Their study underscored that children whose parents demonstrated high motivation and confidence exhibited better cooperation, echoing the results observed at Maryam Surabaya Elementary School.

Contrastingly, some studies propose that the direct impact of parental motivation may vary depending on cultural contexts and socioeconomic factors. Wu et al. investigated parental influence among urban Chinese children and found that, although parental support reduced anxiety, the degree of influence was moderated by caregivers' educational background and cultural beliefs about dental care [33]. These findings suggest that while the core relationship between parental motivation and children's anxiety persists, its strength may differ based on contextual factors.

Furthermore, research by Lee and Park explored the role of parental anxiety alongside motivation, revealing a complex interplay where both parental and child anxieties adversely impact dental cooperation [34]. Their findings emphasize that parental mental health status can influence

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motivation levels and, consequently, affect child outcomes. Such nuances highlight the importance of considering broader psychosocial dynamics in pediatric dental care.

Compared to earlier studies, recent investigations have adopted more rigorous methodologies, such as standardized questionnaires and longitudinal designs, to establish causal relationships [35]. The current study aligns with these advancements by utilizing validated assessment tools, thus reinforcing the robustness of its conclusions.

In sum, the collective body of evidence suggests that parental motivation is a critical determinant of children's dental anxiety, with variations attributable to cultural, socioeconomic, and psychosocial factors. The consistency of these findings across diverse settings highlights the universal importance of engaging parents as active participants in pediatric dental health promotion.

C. LIMITATIONS, WEAKNESSES, AND IMPLICATIONS

Despite the positive insights garnered, this study possesses several limitations that must be acknowledged. First, the cross-sectional design restricts the ability to establish causal relationships definitively. While a significant correlation was detected, longitudinal studies are necessary to determine the temporal sequence and causality between parental motivation and child anxiety [36].

Second, the sample was confined to a single elementary school in Surabaya, which may limit the generalizability of the findings to broader populations with different demographic and cultural backgrounds. The socioeconomic and cultural dynamics unique to the study location could influence parental attitudes and children's responses, thereby necessitating caution when extrapolating results to other settings.

Third, data collection relied heavily on self-reported questionnaires, which inherently carry potential biases such as social desirability and recall bias. Parents might overestimate their motivation levels or underreport their child's anxiety, affecting the overall accuracy of the findings. Incorporating objective behavioral assessments or observational methods could enhance reliability in future studies.

Fourth, the study focused solely on parental motivation without accounting for other influential variables such as child temperament, previous dental experiences, or parental anxiety levels. These factors could confound the observed relationships, and future research should adopt multi-factorial models to elucidate the complex dynamics at play.

From an implications standpoint, the findings underscore the importance of including parental education and support in pediatric dental care strategies. Dental health practitioners should actively engage parents, providing them with information and reassurance to bolster their motivation, which may, in turn, alleviate children's anxiety. Integrating motivational interviewing techniques and parental training programs could serve as effective interventions, as evidenced by recent clinical trials [37].

Furthermore, dental practitioners should recognize that addressing children's fears requires a holistic approach that involves psychosocial factors beyond mere technical competence. Schools and community programs can play a preventive role by educating parents on how their attitudes influence their children's dental experiences. These initiatives could ultimately improve cooperation, reduce dental postponements, and enhance oral health outcomes.

In sum, this study affirms that parental motivation plays a pivotal role in shaping anxiety levels among children undergoing tooth extraction. The findings are consistent with a growing body of evidence emphasizing the significance of parental influence in pediatric dental anxiety management. While limitations exist, the implications for clinical practice advocate for strengthened parental involvement and behavioral interventions aimed at empowering caregivers. Future research should adopt longitudinal, multi-center designs with comprehensive assessments to further elucidate these relationships and optimize strategies to promote positive dental experiences for children.

V. CONCLUSION

This study aimed to examine the influence of parental motivation on anxiety levels experienced by elementary school students during tooth extraction at Maryam Surabaya Elementary School. The findings reveal that the majority of respondents, accounting for 39.4%, exhibited medium levels of motivation, with an average parental motivation score of 37.95 ± 5.08. Correspondingly, most students experienced moderate anxiety, with 39.4% falling into this category and a mean anxiety score of 20.87 ± 10.20. Statistical analysis using the Spearman rank correlation test demonstrated a significant association, with a p-value of 0.032, indicating that higher parental motivation correlates negatively with student anxiety during dental procedures. This suggests that parental involvement and encouragement play a crucial role in alleviating dental anxiety among children. Notably, the study highlights that some parents still resort to punishment or forceful methods, which could potentially exacerbate children's fear and anxiety, emphasizing the need for positive reinforcement and supportive communication in parental practices. For future research, it is recommended to explore more diverse populations and consider longitudinal designs to better understand causality. Additionally, implementing and assessing targeted parental motivation programs could provide further insights into effective strategies for reducing dental anxiety in children. Overall, these findings underscore the importance of parental influence in pediatric dental care and inform dental practitioners and policymakers to foster family-centered approaches that promote positive dental experiences, ultimately contributing to improved oral health adherence and psychological well-being among children.

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DATA AVAILABILITY
No datasets were generated or analyzed during the current study.

AUTHOR CONTRIBUTION
All authors contributed significantly to the conception, design, and implementation of this study. The lead author was responsible for developing the research hypothesis, collecting and analyzing data, and drafting the manuscript. The co-authors participated in literature review, data interpretation, and critical revision of the manuscript to ensure academic rigor and clarity. All authors approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

DECLARATIONS
ETHICAL APPROVAL
This research was conducted in accordance with ethical standards and received approval from the Health Research Ethics Commission at the Surabaya Ministry of Health Polytechnic (EA/1377/KEPK-Poltekkes_Sby/V/2023). Informed consent was obtained from all participants or their guardians prior to data collection, ensuring voluntary participation and confidentiality of responses. The authors declare no conflicts of interest related to this study. No funding was received for this research, and all procedures adhered to appropriate ethical guidelines for research involving minors and educational institutions.

CONSENT FOR PUBLICATION PARTICIPANTS.
Consent for publication was given by all participants

COMPETING INTERESTS
The authors declare no competing interests.

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