



EVALUATION OF SCHOOL (GENERAL AND DENTAL) FEARS USING PALINI PRADHAN'S MODIFIED SCHOOL FEARS' SURVEY SCALE – SFSS-PAL IN SCHOOL GOING CHILDREN FROM BHOPAL – A CROSS-SECTIONAL STUDY

¹Dr. Palini Pradhan, Postgraduate Student*, Department of Pediatric and Preventive Dentistry, RKDF Dental College and Research Centre, Hoshangabad Road, Bhopal 462026, INDIA

²Dr. Deepak Viswanath, Professor and HOD and Ph.D. Scholar, Department of Pediatric and Preventive Dentistry, RKDF Dental College and Research Centre, Hoshangabad Road, Bhopal 462026, INDIA

Abstract:

Background: Fear of dentistry and its expected results, avoidance of dental care, are problems of sufficient magnitude to cause concern among dentists. Before treatment, dentists should be able to detect the patient's level of fear so they can use appropriate management options.

Aims: To Evaluate the Psychometric properties of the School Fears Survey Scale (SFSS) in School going Children from Bhopal City.

Materials and Methods: A cross-sectional study was conducted among a group of 640-school going children aged between 8-14 years. Patients completed a questionnaire including questions about demographic characteristics, previous bad dental experience, trauma's experience period, the sensation of nausea during dental treatment, and a general question about fears related to school surroundings.

Results: The age by gender interaction was significant. Two-way analysis of variance found that older children and girls had higher fear score values.

Conclusion: To diagnose dental fear in clinical settings, it is important to have a valid and reliable diagnostic tool. This instrument shows adequate psychometric guarantees and can be used for the multidimensional assessment of anxiety in clinical and educational settings.

Keywords: SFSS, Dental fear, Dental Fear Survey, Behavior therapy, Bhopal

I. INTRODUCTION

Several fear scales have been created for use with adults and compared to the Taylor Manifest Anxiety scale by Grossberg and Wilson in the interest of behaviour therapy and research (1965). No attempt has been made to cluster items using the factor analytic technique, despite the fact that individual items have been grouped into regions of troubling stimuli based on conceptual groups (e.g., classical phobias, social-interpersonal, sounds, etc.). This paper presents an attempt to develop a fear scale for children in which items are grouped into subscales by using factor analysis. This paper does this because there is also considerable interest in the assessment of children's fears as indicated in the recent text by Eysenck and Rachman (1965).¹

Fears are characterised as typical responses to real threats; they are adaptive and frequently have survival value. Children's concerns have only lately been the subject of comprehensive empirical research, despite being rather well characterised and studied in adults. This is especially true with regard to the influences of development and gender on the presentation of anxieties. Emerging evidence from studies that suggests that excessive fearfulness throughout childhood may place children at risk for the development of anxiety disorders in adolescence highlights the need to increase the body of normative knowledge on children's concerns (Biederman et al., 1993; Hoehn-Saric, Hazlett, & McLeod, 1993).²

The majority of research demonstrate a general decline in the quantity of concerns in typically developing youngsters as well as a shift with age from immediate, physical anxieties to anticipatory, less tangible fears. However, MacFarlane, Allen, and Honzik (1954) observed a significant rise in fear around the age of eleven. Therefore, it would appear desirable to be able to evaluate anxieties related to this second modal point. This measure of dread is based on responses from healthy youngsters between the ages of 8 and 14. Such a scale might be helpful in evaluating children's concerns clinically and provide a way to pick Ss who are susceptible to fear stimuli for research reasons.¹

Worldwide, dental phobia is a common condition that affects all demographic groups. A person's "reaction to an actual threatening incident or a dangerous circumstance to defend one's life" is what is meant by this definition. Concern among dentists is raised by the problem of dental fear, which is likely to lead to avoidance of dental care. In order to apply the best management techniques, dentists should be able to gauge the patient's level of fear prior to treatment. In clinical settings, it is critical to have a good and trustworthy diagnostic technique to identify dental fear.⁴

The majority of fear measures include questions on education. According to studies by Scherer & Nakamura (1968) and Ollendick, Matson & Helsel (1985), two school-related concerns, "getting bad exam grades" and "being sent to the principal," were among the top ten most prevalent fears among kids. These inventories, however, did not sufficiently describe the typical stimuli of the classroom environment.³ As things stand, it is safe to presume that the majority of the fear-related elements in dentistry environments were connected to the school. We have made an effort to include both the fear factor from school and the fear factor from the dentist.

In order to develop a valid, reliable, and usable instrument for the assessment of fears related to the school context of subjects between the ages of 8 and 14, the primary goal of this study was to analyse the factorial structure and the psychometric properties of the preadolescent form of the more recent scale, i.e., School Fears Survey Scale (SFSS-PAL). The analysis of school settings, which cause more dread in preadolescents, gender differences (if any), and how those differences have changed over time was a secondary goal (childhood).

II. METHODOLOGY

A cross-sectional survey of children aged between 8-14 years among a group of 640-school going children was conducted in Bhopal.

Sampling

A simple random survey sampling design was used for participant selection. The participants were selected from four schools, 2 in each government as well as from private. The study includes patients in the age group of 8 to 14 years. They were further divided into boys and girls. Self-structured questionnaire were administered. Prior permissions and Ethical clearance were obtained from the respective authorities.

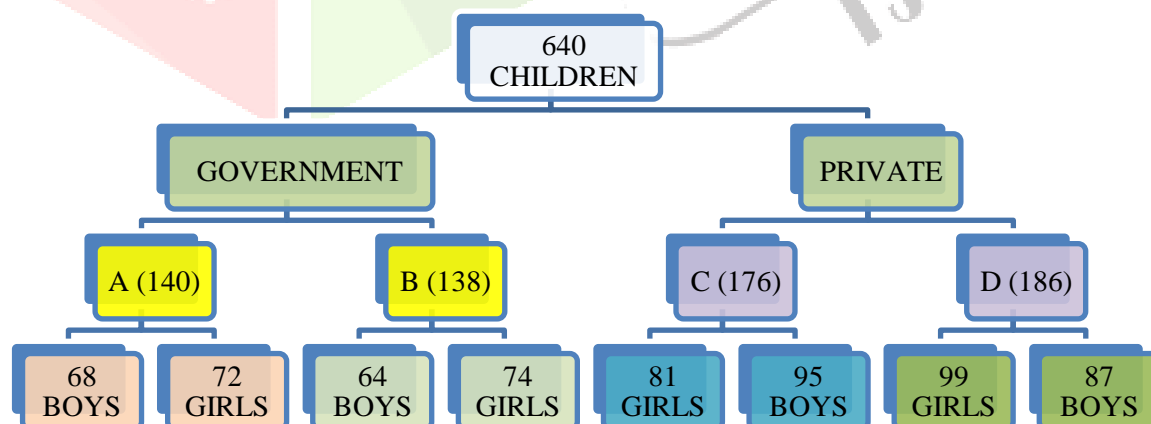


Figure 1: Distribution of Study participants

Questionnaire

The SFSS-PAL is a 24-item 5-point Likert –type scale, measuring school and dental fear among school going children. Twenty –four self-structured questions were designed. Paper printed questionnaires were completed by children individually in the classroom under the explanations of one licenced dentist. If a child did not fill the questionnaires completely or did not qualify, they were excluded from the analyses.

The five-point scale for scoring is as follows:

- 0- Not fearful
- 1- Little fearful
- 2- Neutral
- 3- Very fearful
- 4- Extremely fearful

The entire questionnaire to be answered by the children only. Parent’s involvement may affect the genuinity of the responses.

Pupil Name: Age: Gender: School Name: Section:

QUESTIONNAIRE

Category	01 भयभीत नहीं Not fearful	02 थोड़ा भयभीत Little fearful	03 सामान्य neutral	04 बहुत भयभीत Very fearful	05 बेहद भयभीत Extremely fearful
Dental Part - A					
Dentists दंत चिकित्सक					
Doctors डॉक्टर					
Injections सूई					
Having somebody examine your mouth अपने मुंह की जांच कराना					
Having to open your mouth मुंह खोलना पड़ता है					
Having a stranger touch you किसी अजनबी का आपको छूना					
Having somebody look at you किसी का आपको ओर देखना					
The dentist drilling डेंटिस्ट से दाँतों की खुदाई (इलाज)					
The sight of the dentist drilling दाँतों की खुदाई (इलाज) का दृश्य					
The noise of the dentist drilling दाँतों की खुदाई (इलाज) से आवाज़					
Having somebody put instruments in your mouth किसी के द्वारा अपने मुँह में उपकरण डालना					
Choking घटन					
Having to go to the hospital दन्त चिकित्सालय जाना पड़े					
People in white uniforms सफेद वर्दी में डॉक्टर					
Having the dentist clean your mouth डेंटिस्ट से अपना मुँह साफ करवाना					

School Part - B

Getting bad marks in exam परीक्षा में खराब अंक प्राप्त करना					
Failing in examination परीक्षा में अनुत्तीर्ण होना					
School teacher calls parents शिक्षकों द्वारा फोन कॉल					
Changing schools स्कूल बदलना					
Being made to stand in the classroom कक्षा में खड़े होने देना					
Attending class कक्षा में उपस्थित रहना					
Vomiting at school स्कूल में उल्टी होना					
Leaving home to go to school घर से निकल कर स्कूल जाना					
Reading aloud in front of the class कक्षा के सामने जोर से पढ़ना					

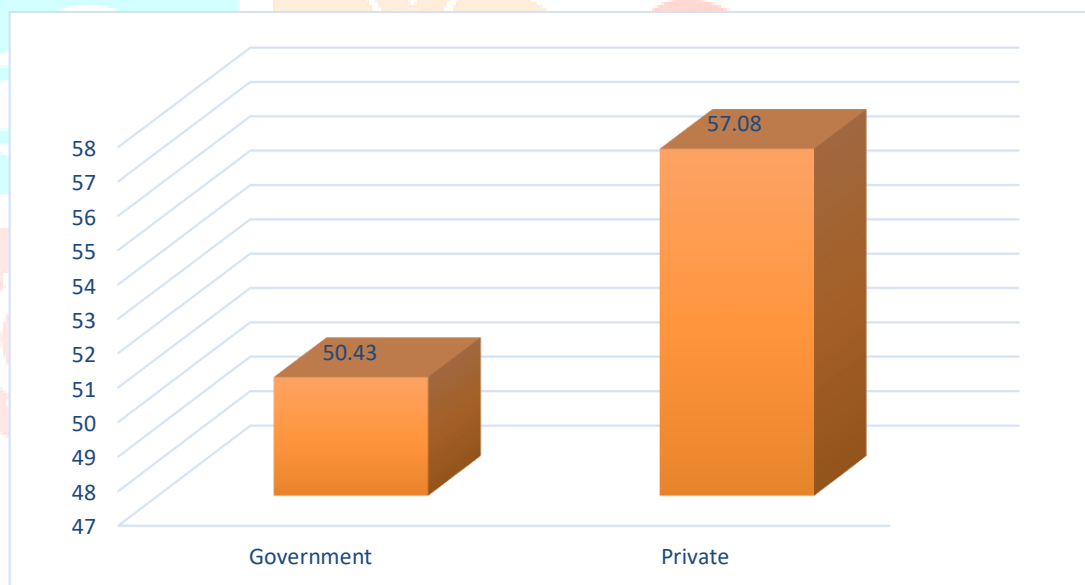
The mean fear value of 8-9 years children was 61.26 ± 4.52 , 9-10 years children was 58.73 ± 5.74 , 10-11 years children was 52.69 ± 5.91 , 11-12 years children was 50.78 ± 5.44 , 12-13 years children was 49.33 ± 6.06 and 13-14 years children was 48.75 ± 5.12 . One way ANOVA test showed significant difference between the groups with t value 9.47 and p value 0.001. Post hoc tukey test showed significant difference between all age groups except between 12-13 and 13-14 years. Therefore, the fear scale value decreases with age. The lower age group had more fear as compared to higher age group. (Table 4)

The mean DMFT value of government school children were 2.24 ± 0.82 and private school children were 2.64 ± 0.49 . Student t test showed significant difference between the groups with t value 4.54 and p value 0.001. The mean def value of government school children were 0.97 ± 0.25 and private school children were 1.33 ± 0.36 . Student t test showed significant difference between the groups with t value 33.77 and p value 0.001. Therefore, the caries level of Government schoolchildren was comparatively lower than the private school children. (Table 5, Graph 5)

Table 1: Comparison of Fear scale value between government and private school

	No of participants	Fear scale value	T value	P value
Government	278	50.43 ± 5.98	7.19	0.001**
Private	362	57.08 ± 7.05		

Student t test, *Significant

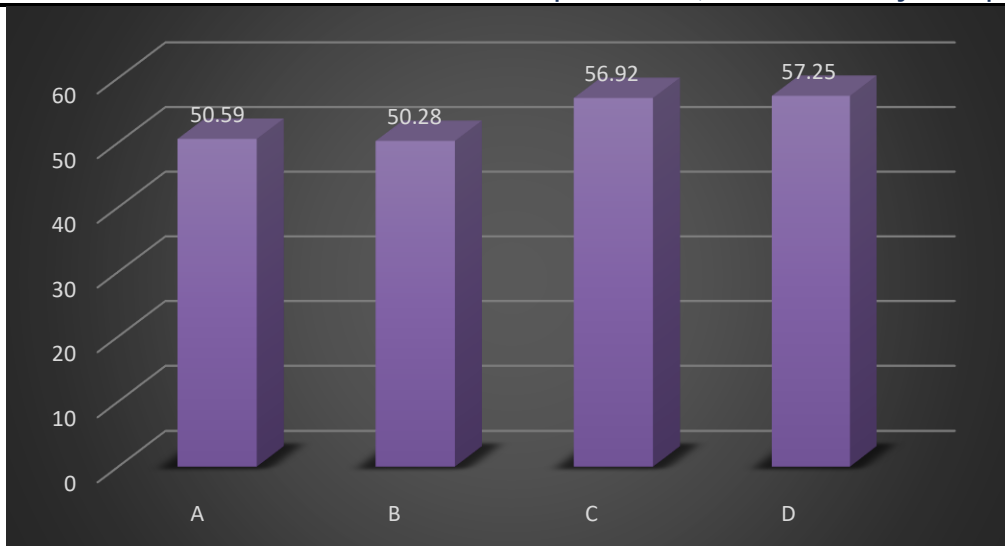


Graph 1: Fear scale value in government and private school

Table 2: Comparison of Fear scale value between different government schools and private schools

Type of school		No of participants	Fear scale value	T value	P value
Government	A	140	50.59 ± 6.97	1.19	0.224
	B	138	50.28 ± 5.69		
Private	C	176	56.92 ± 6.82	0.85	0.458
	D	186	57.25 ± 7.69		

Student t test, *Significant

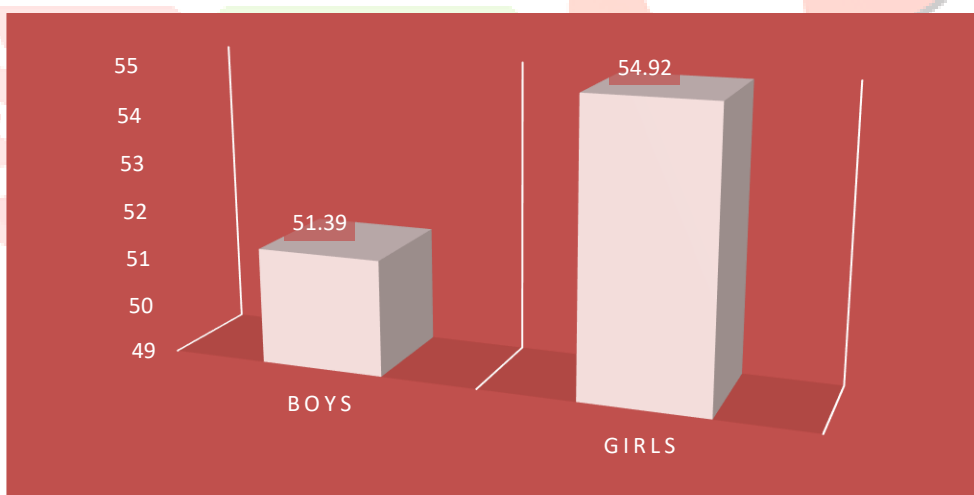


Graph 2: Fear scale value in different government and private school

Table 3: Comparison of Fear scale value between Genders

Type of school	No of participants	Fear scale value	T value	P value
Boys	278	51.39±4.18	3.12	0.002**
Girls	362	54.92±4.26		

Student t test, *Significant

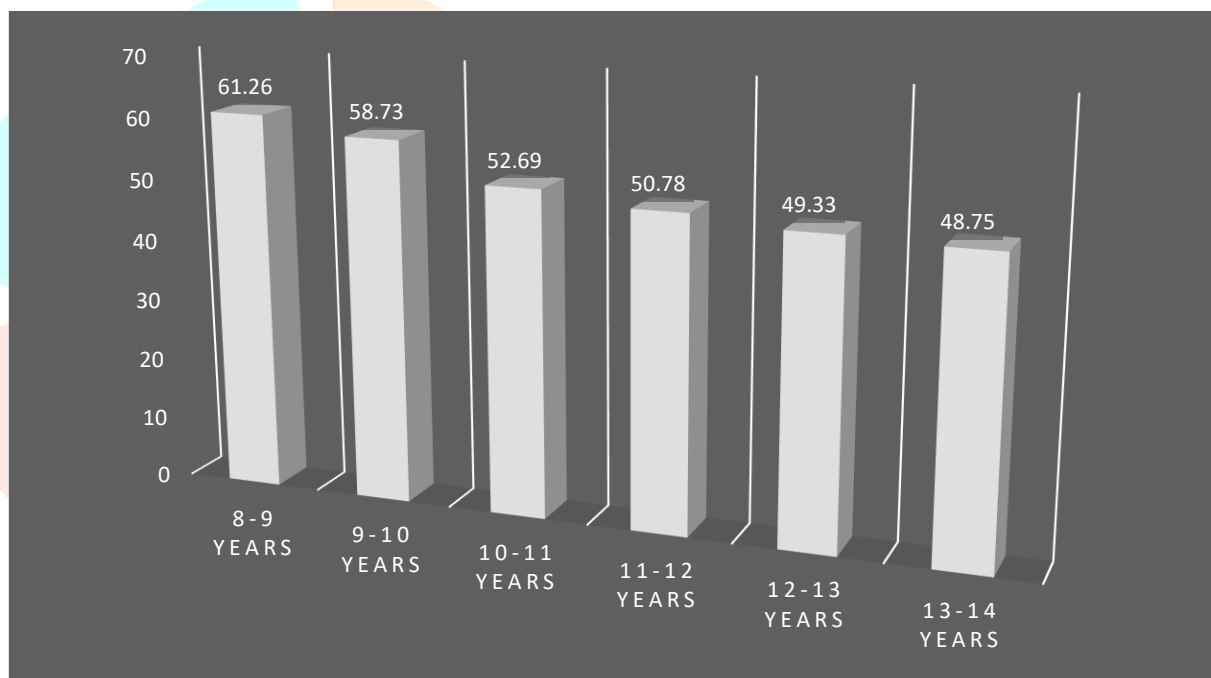


Graph 3: Fear scale in boys and girls

Table 4: Comparison of Fear scale value between different Age groups

Type of school	No of participants	Fear scale value	F value	P value
8-9 years	116	61.26±4.52	9.47	0.001*
9-10 years	110	58.73±5.74		
10-11 years	113	52.69±5.91		
11-12 years	105	50.78±5.44		
12-13 years	99	49.33±6.06		
13-14 years	97	48.75±5.12		

ANOVA test, *Significant

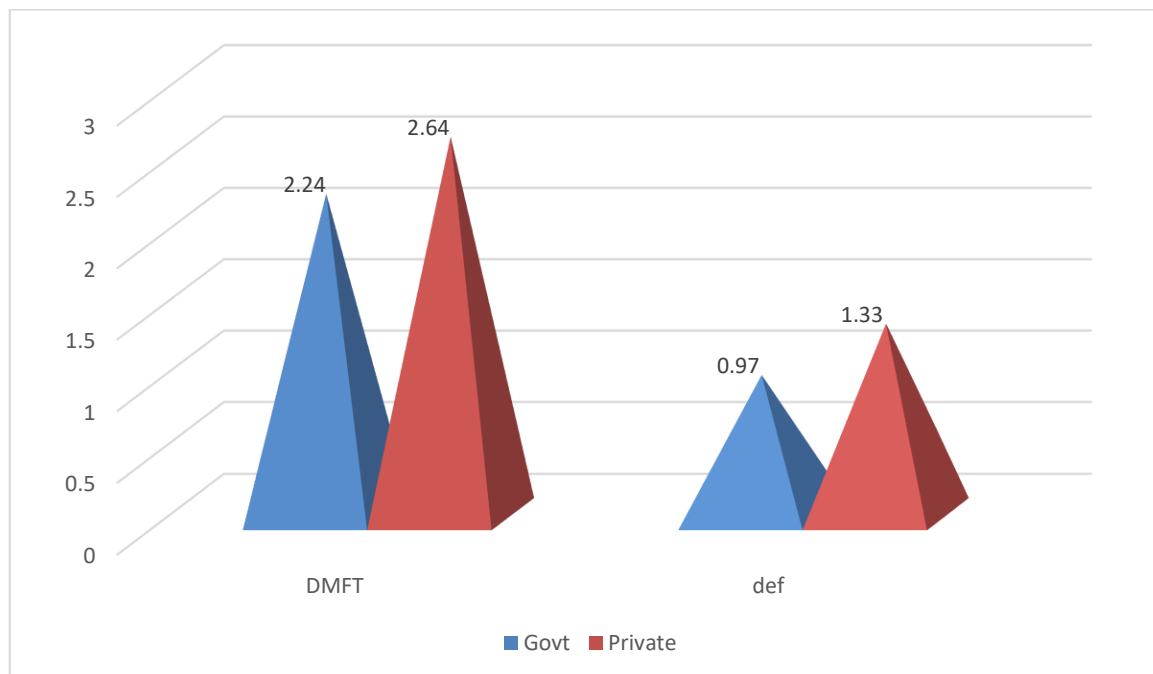


Graph 4: Fear scale value between different Age groups

Table 5: Comparison of caries level between government and private school children

Type of school	N	DMFT	Test value	N	def	Test value
Government	278	2.24±0.82	T=4.54, P= 0.001*	205	0.97±0.25	T=3.77, P= 0.001*
Private	362	2.64±0.49		239	1.33±0.36	

Student t test, *Significant



Graph 5: caries level in government and private school children

IV DISCUSSION-

Children frequently have fears that are tied to situations at school. One of the tools most frequently used in the behavioural assessment of young children's phobias and anxieties is the inventory of fears.³ The objectives of this study were to analyze the psychometric properties of a new self-report instrument to assess school fears in children in a non-clinical sample.

The present study compares the fear scale value of Government and Private school children. The mean fear value of Government school children were 50.43 ± 5.98 and Private school children were 57.08 ± 7.05 . Therefore, the fear scale value of Government schoolchildren was comparatively lower than the Private school children. (Table 1, Graph 1).

Our data confirm that school fears tend to rise with age (Méndez, Espada, Orgilés, Hidalgo, & Garca-Fernández, 2008) and are more common in females. These findings pertain to age and gender characteristics (Eisen & Schaefer, 2005). Early detection should concentrate on females even though this gender difference is typically negligible and is particularly present in community samples. The significant differences indicates greater prevalence among girls than boys, which is similar to the study, reported by Fernandez et al. (2010).³

With regards to age variables, our results support the findings of research in this area, the tendency of School fears to increase with age (Table 4). Which is showing similar results to a study by EL-Housseiny et al. (2014), where the younger age (<3.99yrs) was found to have the highest CFSS-DS scores compared to the older age groups (4-,5-,6- and >7 yrs. old) and the dental fear found among 6-7 years olds decreased as age increased.⁵

This psychometric test that measures dental fears directly would be beneficial in providing a more thorough understanding of the reasons why a kid experiences dental anxiety. The key to providing the kid patient with appropriate treatment is early detection of a child's dental fear using a simple, dependable scale. The dentists will be able to choose the most effective behaviour guiding technique (tell show and do, modelling, desensitisation, etc.) for the child to deal with his or her particular fear by utilising this scale to determine the most frightening items.²

V Conclusions –

The SFSS-PAL is a simple tool for application and correction because it may be applied quickly and corrected manually. These features allow the instrument to be utilised with kids who are experiencing anxiety and terror symptoms and who need to be evaluated and treated as soon as feasible. The major uses of this questionnaire are to aid in the identification of students who suffer from academic anxiety and worry and to provide important information about the most difficult regions.

To conclude this, the uniqueness of the present scale is explained and comparisons are shown in the below Table 6.

Table 6- Comparison of SFSS-PAL with the earlier scales

SFSS	CFSS-DS	SFSS-PAL
<ul style="list-style-type: none"> In order to provide an instrument of specific evaluation, García-Fernandez and Méndez (2008) created the School Fear Survey Schedule (SFSS). 	<ul style="list-style-type: none"> This scale was developed by Cuthbert and Melamed (1982) and consist of 15 item questionnaire related to different aspects of dental treatment 	<ul style="list-style-type: none"> Our study comprises of 25 critical items, which can elicit the overall fear factors easily. Our study can be replicated in various regions too.
<ul style="list-style-type: none"> There is a version (SFSS-I) for children from 3 to 7 years old, for children from 8 to 11 (SFSS-II), and the adolescent version (SFSS-III) aimed at secondary students. 	<ul style="list-style-type: none"> Our study is unique as it comprehensively elicits both the School and Dental Fear component. 	<ul style="list-style-type: none"> Our study is unique as it comprehensively elicits both the School and Dental Fear component.

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