PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Prevalence and risk factors of children's dental anxiety in China: A longitudinal study
AUTHORS	Gao, Shuo; Lu, Jiaxuan; Li, Pei; Yu, Dongsheng; Zhao, Wei

VERSION 1 – REVIEW

REVIEWER	Tim Newton King's College London, United Kingdom
REVIEW RETURNED	21-Aug-2020

GENERAL COMMENTS	The aim of the research described in this manuscript is, "to explore the trend of children's dental anxiety over time and potential risk factors." The Introduction does not adequately review the existing literature concerning the prevalence of dental anxiety and dental phobia among children and young people. There are a number of systematic reviews of previous epidemiological surveys, including some description of the factors associated with elevated levels of dental anxiety. The authors should include a more comprehensive review of the existing literature. A good place to start might be: Grisolia et al (2020) doi:10.1111/ipd.12712 Coxon J, Hosey MT & Newton JT (2019) "The impact of dental anxiety on the oral health of children aged 5 and 8 years: A regression analysis of the Child Dental Health Survey 2013." British Dental Journal, 227: 818-822. Coxon J, Hosey MT & Newton JT (2019) "How does dental anxiety affect the oral health of adolescent? A regression analysis of the Child Dental Health Survey 2013." British Dental Journal, 227: 823-828. Coxon J, Hosey MT & Newton JT (2019) "The oral health of dentally phobic 5 and 8 year olds. A secondary analysis of the 2013 Child Dental Health Survey". British Dental Journal, 226: 503-507. Coxon J, Hosey MT & Newton JT (2019) "The oral health of dentally phobic 12 and 15 year olds. A secondary analysis of the 2013 Child Dental Health Survey". British Dental Journal, 226: 595-599.

	There is also little reflection on the operationalisation of 'dental anxiety'. Given that the construct is likely to be continuous, prevalence estimates will vary depending on the cut-off used to define 'dental anxiety' on any scale. This issue should be discussed I found the methodology unclear about the specifics of the longitudinal nature of this study. I have assumed that a group were recruited at time 1 and then followed up over time. However the Methodology does not describe this, nor provides information on the average (and range) of intervals between testings. An alternative methodology is that this is a series of cohorts at three time points, so not a true longitudinal study. Can the authors please clarify. This is important since the authors suggest this is the only longitudinal study that has been done in this area – that is probably true, but there have been a number of studies that have looked at similar cohorts at different time points. In the methodology, how were the cut-offs for the CFSS-DS decided ? I am not sure how the factor analysis contributes to the aim of the paper. It could perhaps be removed without loss of information pertaining to the goal. A limitation of the study is that measurements were made at a dental department, thus potentially excluding individuals with high levels of dental anxiety, particularly those who may be experiencing dental phobia (which is likely to be 10% of all children). The authors do mention this but it might be discussed in more detail.

REVIEWER	Alexey Sarapultsev Institute of Immunology and Physiology of Ural Branch of RAS, Russia
REVIEW RETURNED	15-Sep-2020

GENERAL COMMENTS	Dear authors, thank you for the interesting study. There are some points to be discussed. 1. Materials and methods. Please rewrite the section. Please provide the information about the kind of treatment and previous dental experience of children, because those factors could affect the results. Please make the necessary calculations and discuss them [PMID: 29514657]. Chinese version CFSS-DS with FIS. What is the difference in the Chinese version from other scales (Modified Dental Anxiety Scale (MDAS)) [PMCID: PMC7233127]? Why the scale with images was used for all the range of ages from five to 12 years. Please discuss this. Lines 4-5. "In this study, the pilot test of Chinese version CFSS-DS with FIS was carried on 32 children and their parents, which revealed that young children were able to answer the CFSS-DS items with reference to the facial images". What do you mean, what was the aim of the study, and where are the results? Discussion and Introduction. It will be interesting to the international readers if you compare the obtained results (DFA scores) from China with the results of recent

	studies conducted in other countries: (PMID: 32610359, PMID: 28494603, PMID: 30386640). Minor concerns. The page numbers in the STROBE Statement—checklist do not represent the information on pages. Please correct. It is not clear if the parent were with children while completing the survey. If their parents were present, the lack of privacy could have affected questionnaire completion. I recommend to get editing help from someone with full professional proficiency in English.

VERSION 1 – AUTHOR RESPONSE

Replies to Reviewer 1

Specific Comments

1. The Introduction does not adequately review the existing literature concerning the prevalence of dental anxiety and dental phobia among children and young people. There are a number of systematic reviews of previous epidemiological surveys, including some description of the factors associated with elevated levels of dental anxiety. The authors should include a more comprehensive review of the existing literature.

Answer: Several sentences have been revised and added in the Introduction in the revised version to address this issue. The statement of the prevalence and associated factors of dental anxiety have been added to the introduction section. Many thanks to the reviewers for the references!

2. There is also little reflection on the operationalisation of 'dental anxiety'. Given that the construct is likely to be continuous, prevalence estimates will vary depending on the cut-off used to define 'dental anxiety' on any scale. This issue should be discussed.

Answer: A cut-off point should be a clear point on a continuous measure that acts as a categorical boundary, ideally providing an intuitive interpretation of scores above and below that point. It is necessary to determine the cut-off point for identifying children with dental anxiety that is helpful for clinicians to choose appropriate behavior management measures. Generally, dental anxiety is measured according to cut-off points on validated scales. In some studies the mean score or the median score on scales has been used as the cut-off point[1], but it may be more effective to use a quantitative test to determine the cut-off point on a continuous scale, such as ROC analysis[2]. When

determining the cut-off point to distinguish between children who are more prone to dental anxiety, findings should reflect the balance of the sensitivity and specificity. Sensitivity and specificity need to be adjusted according to the purpose of the study and the target population, which may explain the different prevalence estimates depending on the different cut-off values used to define "dental anxiety". Children dental anxiety cut-off points on CFSS-DS are already defined in several researches, but the conclusions are not all the same. Most of the existing reports have chosen the score greater than or equal to 38 as an upper limit of the 'borderline range'[3-9], and 32 was defined as the lower limit[2]. These have been added to the discussion section. We hope the reviewers can give more guidance in this respect.

3. I found the methodology unclear about the specifics of the longitudinal nature of this study. I have assumed that a group were recruited at time 1 and then followed up over time. However the Methodology does not describe this, nor provides information on the average (and range) of intervals between testings. An alternative methodology is that this is a series of cohorts at three time points, so not a true longitudinal study. Can the authors please clarify. This is important since the authors suggest this is the only longitudinal study that has been done in this area – that is probably true, but there have been a number of studies that have looked at similar cohorts at different time points.

Answer: The present study was a ten-year observational survey. The subjects of the study are randomly selected children aged 5-12 years who visited the department of Pediatric Stomatology and met the inclusion criteria. The professional reputation of the hospital to which the department belongs has been high and its location has not changed geographically, thus the population characteristics of the children who visit the department are stable. Therefore, the subjects of the study should be a sample of this population, which is not strictly the same cohort, but still representative. The results in this study should be generalizable and comparable to other children population in large cities. Our research work team also hopes to deepen and extend this research project, with plans to continue the investigation of children dental anxiety in a wider group of children, such as school children, or the same cohort follow-up. However, our knowledge in statistics is very limited and we look forward to more corrections and comments from the reviewers. Thanks for telling that there have been a number of studies that have looked at similar cohorts at different time points, so the description of this study has been changed accordingly.

4. In the methodology, how were the cut-offs for the CFSS-DS decided ?

Answer: Generally, dental anxiety is measured according to cut-off points on validated scales. In some studies the mean score or the median score on scales has been used as the cut-off point[1], but it may be more effective to use a quantitative test to determine the cut-off point on a continuous scale, such as ROC analysis[2]. When determining the cut-off point to distinguish between children who are more prone to dental anxiety, findings should reflect the balance of the sensitivity and specificity. Sensitivity and specificity need to be adjusted according to the purpose of the study and the target population. Children dental anxiety cut-off points on CFSS-DS are already defined in several researches, but the conclusions are not all the same. Most of the existing reports have chosen the score greater than or equal to 38 as an upper limit of the 'borderline range'[3-9], and 32 was defined as the lower limit[2]. Because of the higher acceptance and consistency, in the present study, children with CFSS-DS scores of 38 and higher were considered as dentally anxious, with CFSS-DS scores of 32 and lower are considered non-fearful; with CFSS-DS scores between 38 and 32 were considered as 'borderline range'. It is believed that further researches are needed in this area.

5. I am not sure how the factor analysis contributes to the aim of the paper. It could perhaps be removed without loss of information pertaining to the goal.

Answer: The factor analysis in this study plays a role in analyzing and interpreting the findings, so it is desired to retain this content. First, the results of the factor analysis indicate that the Chinese version CFSS-DS has good construct validity. Factor analysis resulted in four factors, indicating that four deeper sources of children dental anxiety, that are 1) highly invasive dental procedures, 2) general medical aspects of treatment, 3) less invasive procedures, and 4) strangers or unfamiliar objects. 1) and 3) are related to dental clinical practice, and 2) and 4) are related to general anxiety in addition to dentistry. This is in line with our research work team's original conception of the sources of children's dental anxiety detected by CFSS-DS in the Chinese language environment. The four factors are useful in revealing the underlying causes of children dental anxiety. Furthermore, in 8-10-year-old group, the children in 2015-2017 were found with significantly lower CFSS-DS scores compared with peers in 2008-2011, and the results of factor analysis showed that the anxiety level of the items

belonging to factor III significantly decrease over time, that provided a possible explanation. In recent years, the visual output of "open your mouth" and "doctor examines teeth" during dental visits in oral hygiene education of the mass media has been very common, that belong to factor III “less invasive procedures”. This public information may improve the awareness of 8-10 year old children about the dental treatment situation. Finally, the results of the factor analysis also point to a possible direction for future oral health education, that is, the images associated with the items belonging to factor I should be more widely publicized, such as “dentist drilling”, in a more moderate manner.

6. A limitation of the study is that measurements were made at a dental department, thus potentially excluding individuals with high levels of dental anxiety, particularly those who may be experiencing dental phobia (which is likely to be 10% of all children). The authors do mention this but it might be discussed in more detail.

Answer: Many thanks to the reviewers for the suggestions. Several sentences about more detail and more limitations of this study have been revised and added in the discussion in the revised version to address this issue. Clinical samples and school samples have their own advantages. It is true that the clinical sample did not include children who were afraid to go to the dentist because of high dental fears, while the school sample is likely able to detect them. This limitation of the present study makes the results not representative of all groups of children. Our work team looks forward to a wider investigation of children dental anxiety in the future.

Replies to Reviewer 2

Specific Comments

1. Materials and methods. Please rewrite the section.

Answer: Many thanks for the suggestions. The word order in the Materials and methods section has been adjusted in the revised version. Further specific comments would be appreciated.

2. Please provide the information about the kind of treatment and previous dental experience of children, because those factors could affect the results. Please make the necessary calculations and discuss them [PMID: 29514657].

Answer: We are very sorry that this part of the result was not presented in the manuscript. Because of the long duration of the survey and several turnover of investigators (e.g., graduation departures of Master and PhD students), registration information about the kind of treatment and previous dental experience of children is partially missing. At the beginning of writing this paper and during this revision, I tried my best to sort out all the information, but failed. I have been deeply sorry for this. The Chinese version CFSS-DS with FIS is well established for use in our department, and it is hoped that survey research on dental anxiety of children will continue in anticipation of adding content on more relevant factors of children's dental anxiety in the near future. Thanks to the reviewers for their tips on this topic.

3. Chinese version CFSS-DS with FIS. What is the difference in the Chinese version from other scales (Modified Dental Anxiety Scale (MDAS)) [PMCID: PMC7233127]? Why the scale with images was used for all the range of ages from five to 12 years.

Answer: Both CFSS-DS and Modified Child Dental Anxiety Scale (MCDAS) are reliable measurement methods of children dental anxiety. MCDAS is a single-dimension, single-structured self-assessment scale of dental anxiety for children aged 8-15 years, developed by Wong et al. in 1998 based on Corah Dental Anxiety Scale(CDAS)[10]. It consists of 8 questions to assess anxiety in different dental situations including a question about local anaesthetic, and other dental procedures, such as extraction, dental general anaesthesia, and relative analgesia, and rates the level of dental anxiety using a 5-point Likert scale, each question ranging from 1 (not afraid) to 5 (very afraid), for a total score of 8-40. However, MCDAS is not suitable for young children with poor cognitive ability. In 2007, Howard and Freeman[11] created MCDAS-Faces Version (MCDAS-f) by combining facial expression scale instead of textual descriptions, which allows toddlers and nervous children to be assessed appropriately for dental anxiety. Scores on the MCDAS-f below 19 indicate absence of state anxiety, scores higher than 19 indicate the presence of state anxiety and scores higher than 31 indicate severe phobic disorder[12].

CFSS-DS is an international universal scale with 15 questions and a total score of 15-75. It was used as a calibration standard in the reliability and validity test of cross-cultural adaptation of Chinese version of MCDAS-f[13]. CFSS-DS has more items than MCDAS, and may allow children to spend more time completing the questionnaire. In terms of the content of the questions within the scales, the CFSS-DS and MCDAS items overlap and differ, e.g., both scales involve “go to the hospital”, “injections” and dental examine; but CFSS-DS has items referring to general fears of non-oral treatment, such as "having someone look at you", "having a stranger touching you", "doctors", "people in white uniforms". Moreover, CFSS-DS breaks down "dental fillings" into some details in their process such as sight and noise of drilling and so on, which help identify the source of anxiety, but may had a limited focus on the anxiety in response to specific dental situations, making it difficult for children who have not encountered these experiences to answer these items[14]. In addition, the last two items of MCDAS, "being put sleep to have treatment?" and "having a mixture of gas and air" should be related to oral treatment under general anaesthesia or sedation, which is lacking in the CFSS-DS. The cut-off value of CFSS-DS varies slightly across studies. Studies showed the high correlation[15-19] and good internal consistency[20-22] between the CFSS-DS and CDAS scales. Furthermore, CFSS-DS with FIS and MCDAS-f are suitable for young children for assessing dental anxiety.

Accordingly, the two scales can be appropriately selected according to the medical institution programme and design of investigation. In sum, the 15-item CFSS-DS and the 8-item MCDAS are the most widely used measures of dental fear in children, and have been translated in several languages and reported good validity in several countries.

	Children’s Fear Survey Schedule -Dental Subscale (CFSS-DS)	**Modified Child Dental Anxiety Scale (MCDAS)**
Items	1. Dentist	1. Going to the dentist generally
	2. Doctors	2. Having your teeth looked at
	3. Injections	3. Having your teeth scrapped and polished
	4. Having somebody examine your mouth	4. Having an injection in the gum
	5. Having to open your mouth	5. Having a filling

	6. Having stranger touch you	6. Having a tooth taken out
	7. Having somebody look at you	7. Being put to sleep to have a treatment
	8. The dentist drilling	8. Having a mixture of gas and air which will help you to feel comfortable for treatment but cannot put you to sleep
	9. The sight of the dentist drilling	
	10. Noise of the dentist drilling	
	11. Having somebody put instruments in your mouth	
	12. Choking	
	13. Having to go to hospitals	
	14. People in white uniforms	
	15. Having the nurse clean your teeth	
Total score	15-75	8-40

Some researchers believe that CFSS-DS has better psychometric properties than other scales as it measures dental fear more precisely and covers more aspects of dental situations[23]. In this study CFSS-DS is considered more applicable to the children visiting the Department of Pediatric Dentistry. Although older children have sufficient cognitive ability to complete the text-only descriptive scale, in order to obtain data that ensure homogeneity and good consistency in the younger children's group as well, this study used the CFSS-DS with FIS in all age groups to facilitate comparative analysis of data from different age groups and also to make the survey implementation process easier. The self-report scale also avoided the bias introduced by parents' own anxiety.

4. Please discuss this. Lines 4-5. “In this study, the pilot test of Chinese version CFSS-DS with FIS was carried on 32 children and their parents, which revealed that young children were able to answer the CFSS-DS items with reference to the facial images”. What do you mean, what was the aim of the study, and where are the results?

Answer: It's so sorry that this content is not expressed with precision and clarity. The purpose of the pilot test was to clarify whether the Chinese version of the CFSS-DS could be successfully applied to younger children in order to adjust and improve the subsequent experimental protocol. Therefore, the preliminary test was carried on 32 children, and the results showed that although children aged 4 years and younger were able to answer CFSS-DS items based on facial images, they could not accurately grasp the meaning of most of the items. Therefore, children aged 5 to 12 years were selected for this study, which is expressed in the first paragraph of the Discussion section, but the results of the pilot test are not presented in the text. Corrections have been made in the revised version.

5. Discussion and Introduction. It will be interesting to the international readers if you compare the obtained results (DFA scores) from China with the results of recent studies conducted in other countries: (PMID: 32610359, PMID: 28494603, PMID: 30386640).

Answer: Many thanks to the reviewer for this suggestion. The research on children dental anxiety in the past five years is summarized in the table below. In this study, the data from reports using the same scale were selected for comparison of DFA scores. The CFSS-DS scores varies in the international literature in different populations and dental situations. The mean score in the present study was 24.8±10.3, which was comparatively lower than scores from studies in Brazil (29.3±10.5) [PMID: 3144393], Hong Kong (29.1±11.0) [PMID: 29866080], Greece (27.1±10.8) [PMID: 28494603], Egypt (26.09±10.70) [PMID: 30417844] and Jeddah, Saudi Arabia (25.99 ± 9.3) [PMID: 29514657]. CFSS-DS scores in the current study did not differ greatly from data from these previous studies, that may be due to the similar age range of the subjects and different cultural parameters. Several sentences have been added in the Discussion to address this issue.

	Countries	**Mean scores**	**Scale**	**Sample size**	**Age**	**Prevalence of DFA**	**Reference PMID**	**Year of publication**
1	Russia	11.85	5-item Modified Dental Anxiety Scale (MDAS)	371	2-17y	93.8%	32610359	2020
2	**Greece**	**27.1±10.8**	**Children's Fear Survey Schedule (CFSS-DS)**	**1484**	**6-12y**	**15.4%**	**28494603**	**2017**

3	Estonian	20.8 ± 9.1	11-item CFSS-DS	344	8-10	30.7%	30386640	2018
4	Vietnamese	15.4 ± 4.4		556		28.0%		
5	Dubai, UAE	15.02± 4.90 (self-reported)	6-item Modified Child dental anxiety Scale -faces version (MCDAS-f)	156	9.95±2.17y	22.4% (self - reported)	32170653	2020
		15.70± 6.07 (proxy-reported)				33.3%(proxy - reported)		
6	India	18.06±3.6	MDAS	400	6-12y	61.5%	31198362	2019
7	**Brazil**	**29.3±10.5**	**CFSS-DS**	**231**	**4-12y**	**33%**	**31144393**	**2019**
8	**Egypt**	**26.09±10.70**	**CFSS-DS**	**1546**	**6-12y**	**12.5%**	**30417844**	**2018**
9	**Hong Kong, China**	**29.1±11.0**	**CFSS-DS**	**405**	**9-13y**	**33.1%**	**29866080**	**2018**
10	**Jeddah, Saudi Arabia**	**25.99 ± 9.3**	**CFSS-DS**	**1522**	**12-15y**	**None**	**29514657**	**2018**
11	Romania	None	13-item Children Dental Anxiety Scale (CDAS)	389	6–9 y	43.7%	33023083	2020
12	Hong Kong, China	None	Frankl Behaviour Rating Scale (FBRS)	498	3-5y	96%	32325972	2020
13	Nepal	Unavailable	CFSS-DS	300	4-13y	16.3%	31710008	2019
			FIS			11.9%		
			FBRS			70.6%		
14	India	None	CFSS-DS	420	3-14y	7.4%	28492191	2017
			Facial image scale (FIS)			14.3%		
			Dental fear scale (DFS)			22.6%		
15	India	Unavailable	CFSS-DS	718	9-12y	62%	26838145	2016
16	India	None	CFSS-DS	250	10-14y	42%	28884153	2016
17	Brazil	None	Dental Anxiety Question (DAQ)	416	5-7 y	16.2%	28266046	2017

18	Brazil	None	DAQ	1202	8-12y	24.6%	29297563	2017
19	Brazil	None	DAQ	784	5-7 y	17.4%	27095334	2016

6. Minor concerns. The page numbers in the STROBE Statement—checklist do not represent the information on pages. Please correct.

Answer: Corrections have been made in the revised version.

7. It is not clear if the parent were with children while completing the survey. If their parents were present, the lack of privacy could have affected questionnaire completion.

Answer: Parents were present when children completed the survey. This is another limitation of this study and related content has been added to the discussion section. Our research work team believe that parental presence does reduce privacy of children. Therefore the interpretation of the questionnaire items during the survey was done by the investigator rather than the parents, with a view to minimising the influence of parental presence on children's completion of the questionnaire. Our team will try to improve environmental conditions more conducive to children's privacy in future continuing surveys.

8. I recommend to get editing help from someone with full professional proficiency in English.

Answer: This manuscript has been revised by someone who is proficient in English, but I still hope this manuscript can get editing help from a professional proofreading company, and sincerely hope that the editor can give me extra time.

FORMATTING AMENDMENTS (if any)

Required amendments will be listed here; please include these changes in your revised version:

•We have implemented an additional requirement to all articles to include 'Patient and Public Involvement' statement within the main text of your main document. Please refer below for more information regarding this new instruction:

Patient and Public Involvement:

Authors must include a statement in the methods section of the manuscript under the sub-heading 'Patient and Public Involvement'.

This should provide a brief response to the following questions:

How was the development of the research question and outcome measures informed by patients' priorities, experience, and preferences?

How did you involve patients in the design of this study?

Were patients involved in the recruitment to and conduct of the study?

How will the results be disseminated to study participants?

For randomised controlled trials, was the burden of the intervention assessed by patients themselves?

Answer: 'Patient and Public Involvement' have been added in the methods section of the revised manuscript.

Patient advisers should also be thanked in the contributorship statement/acknowledgements.

Answer: Relevant additions have been made in the Acknowledgments section.

If there is no patient involved in the study, please state "No patient involved" under the sub-heading 'Patient and public involvement'.

Answer: (not suitable for this study)

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VERSION 2 – REVIEW

REVIEWER	Tim Newton King's College London, United Kingdom
REVIEW RETURNED	26-Nov-2020

GENERAL COMMENTS	I am grateful to the authors for addressing the issues raised in my initial review. The manuscript is much improved. I note that the authors suggest that the inclusion of the factor analysis is important in establishing the construct validity of the measure of dental anxiety used. However as I alluded to in my earlier review the aim of the manuscript is "The aim of the study was to explore the trend of children's dental anxiety over time and potential risk factors." It is therefore difficult to understand how an analysis of construct validity takes this

REVIEWER	Alexey P Sarapultsev Ural Federal University
REVIEW RETURNED	26-Nov-2020

GENERAL COMMENTS	Dear authors thank you for the work done. A could suggest mentioning the absence of information about the previous dental experience in the Limitations of the study.

VERSION 2 – AUTHOR RESPONSE

Replies to Reviewer 2

Comments to the Author:

Dear authors thank you for the work done. A could suggest mentioning the absence of information about the previous dental experience in the Limitations of the study.

Answer: Many thanks for the suggestions. Relevant additions have been made in the limitations of this study in the revised version.

Replies to Reviewer 1

Comments to the Author:

I am grateful to the authors for addressing the issues raised in my initial review. The manuscript is

much improved. I note that the authors suggest that the inclusion of the factor analysis is important in establishing the construct validity of the measure of dental anxiety used. However as I alluded to in my earlier review the aim of the manuscript is "The aim of the study was to explore the trend of children's dental anxiety over time and potential risk factors."

It is therefore difficult to understand how an analysis of construct validity takes this

Answer: Thanks very much for reviewer's comments.

The factor analysis serves the purpose of this paper by playing an analytical role in interpreting the findings of the study.

First, factor analysis revealed the underlying reasons for the emergence of the trend in children dental anxiety found in this study. The findings showed that the total CFSS-DS scores of children in the 8-10 year old group decreased over time, indicating a trend towards lower levels of dental anxiety, with the time factor possibly being a relevant factor. Factor analysis divided the items of CFSS-DS into four factors based on deep sources of children dental anxiety, and then the statistical analysis of the sum of the scores of the items belonging to each factor separately revealed that the scores of the items belonging to Factor III have significantly decreased over time, thus indicating that the downward trend in the total CFSS-DS scores may have originated from the items of Factor III. The inference can then be drawn that the underlying cause of the decreasing trend is likely to be that the fear of general dentistry operations represented by Factor III (less invasive procedures) has decreased in recent years.

Furthermore, the factor analysis also point to a possible direction for future oral health education. No significant reduction in the scores of items belonging to the other three factors, so dentists could at least still enhance oral hygiene promotion in the area of factor I (highly invasive dental procedures).

We apologize for the lack of detail and depth in our original description, and we have revised the presentation of the relevant elements of the factor analysis in the manuscript to make our results clearer. It is sincerely hoped that this section will be retained, allowing for a fuller interpretation of the study. We would appreciate more guidance from the reviewers in this respect.