

# Impact of Dental Atmosphere and Behaviour of the Dentist on Children's Cooperation

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**Abstract** During dental treatment children are usually under psychological pressure. With the Sarnat Behaviour Score five different types of patients can be distinguished. There is no method that measures the impact of dental atmosphere and dentist's behaviour on the young patients' readiness to cooperate. The objective of the present study was the implementation and evaluation of a questionnaire on this subject. Eighty-eight patients participated in this study. In the first part of the new questionnaire personal information was collected. The second part consists of 43 items and investigates the relationship between dentist and patient and reflects the atmosphere of the environment. Statistical analysis was performed using the Chi-square test. There were statistically significant differences between the cooperative and non-cooperative group, as regards the perceived honesty of the dentist, the ability to explain and wish to help. Uncooperative children are significantly more often afraid of the dental environment. Sympathy alone has only a minor effect on children's cooperation. Children should be treated with empathy. Especially younger patients appreciate detailed explanations by the dentist. Children's non-cooperative behaviour results often from their aroused interest in the unknown environment, which causes an unpleasant perception of the whole setting.

**Keywords** Dental anxiety · Questionnaire · Children · Behaviour

## Introduction and Objectives

Dental treatment often implies a stressful situation for patients. Thereby it is irrelevant if the patient is suffering from pain or is keeping an appointment for a check-up. Strategies for coping with anxiety are, for this reason, exceedingly important. The ability for psychosocial adaptation of the patient to the situation at the dentist must therefore be high. Even for younger patients and children, the scale of the intervention in regards to its content and time frame is often not able to be evaluated. For this reason, extensive information from the dentist about the flow of the procedure is urgently needed.

The emotional world of many children during a dentist visit is often characterized by uncooperative behavior. The clear goal of dental treatment is, however, to help the patient. Whereas adult patients should develop their own anxiety coping strategies throughout the years, this task often becomes the responsibility of the practitioner in pediatric dentistry (Deister 2002).

There are many causes of dental treatment anxiety and they have been repeatedly researched by a lot of studies. Colares and Richman (2002) showed that there are different basic conditions that regularly appear in patients reluctant to receive treatment. According to research, younger children are generally more afraid; also children with a long medical case history produce more fear. Anxiety can also often be an expression of the lack of education about the events taking place (Barrett-lennard 1981). A detailed explanation of the treatment taking place can relativize the fear of specific objects. In order to analyze the anxiety associated with

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visiting the dentist, different questionnaires exist. The four most commonly used scales to assess dental anxiety consist of the following: Dental Anxiety Scale (Corah et al. 1978), Dental Fear Survey (Kleinknecht et al. 1973), Hierarchic Anxiety Scale (Jöhren 1999) and State Trait Anxiety Inventory (de Jongh et al. 1995).

These questionnaires, however, are not especially tailored to children and survey much more about state anxiety than the causes of unwilling behavior. The quantitative and qualitative influence of both atmosphere and the behavior of the dentist on the patient's willingness to cooperate are underrepresented in research (Stouthard and Mellenbargh 1993). As of yet, no questionnaire has shown if an uncooperative child describes the dentist differently than a willing subject.

The fact that an uncooperative child isn't always anxious is also something that hasn't previously been represented in questionnaires, given that the cooperative behavior was not assessed before questioning—for instance, with the aid of Sarnat Behaviour Scores (Sarnat et al. 1972).

The impact of the dental atmosphere on a subject is a major aspect. Smells, sounds, and other sensations should be evaluated. The subjects also assess the personality of the dentist; their honesty, their ability to explain as well as their willingness to help.

The aim of this study is to develop a questionnaire that assesses both the external influences of the dental facility and the behaviour of the dentist. The amount of cooperative behavior of the subject will be determined before the actual questioning begins, so that the influence is visible as the items are answered.

The impact of the dental atmosphere on a subject is a major aspect. Smells, sounds, and other sensations should be evaluated. The subjects also assess the individual behaviour of the dentist; their honesty, their ability to explain as well as their willingness to help. The investigation of these facts with the help of the questionnaire is part of a self-regulation learning process for the children. Self regulated learning is the trial of monitoring one's cognitive, behavioural, and emotional development. (Boekaerts 2005) Children have to be aware of their emotions and feelings as origin for a handling of them (Rief 2010). Biofeedback and self-regulation as strategies to improve stress-induced behaviour have been found useful in several dental studies before (Glaros 2008). The results of the present study are the basis for further studies which will be of interventional character: Relaxation, visualization, and other cognitive control techniques could teach an individual to control muscle tension, pain, body temperature, brain waves, and other bodily functions (Elmore 1988). Thus our study might help identify patients for whom these types of procedures may be most of value.

Another objective of this study is to determine the role of age of the subject, of social status of the parents as well

as of the status of the teeth based on the DMFT-Index (Splieth 2002). These parameters were examined in previous studies and evaluated divergent by different authors as possible triggers for anxiety or their co-factors as uncooperative behaviour.

## Methods

In the study, 88 subjects participated. The voluntary attendance was made clear to all children and their parents which visited the dental institutions during the period of evaluation. The aim and interests of the study was told to the children and their parents by the interviewer of the questionnaire. The mean age at the time of examining was 8.3 years (range 3–18 years). In total, 3–9 year old children were assigned to the “younger group” and the 10–18 year old children were allocated to the older group. The grouping was based on developmental considerations. There are past findings that showed these two age groupings respond differently to dental treatment procedures (ter Horst and Hoogstraten 1988).

Mentally or physically handicapped patients did not participate in the study. The anamnesis and medical history was surveyed with the parents before the study beginning. Criteria for the exclusion included patients with physical or mental disabilities (e. g. emotional disturbances), or patients seeking treatment for pain. A further group assignment occurred by determination of the DMFT-Index. (Number of destroyed (D), missing (M), or filled teeth (F) (Splieth 2002). Children with good oral health showed a DMFT-Value of 10 or less. Patients with weak oral health had a DMFT-Value >10. The education level of the parents was grouped in accordance with an existing social status index (Böhm 2001). All children were assigned in the groups with high, middle, and low educational level of their parents. After the individual cooperation behavior was determined by the Sarnat Behaviour Score on a five-point scale, the questionnaire about atmosphere and the behavior of the dentist was presented. Uncooperative children were evaluated with a Sarnat Score of 1 and 2. Sarnat Scores of 3, 4 or 5 symbolized cooperative children. As result there were two homogenous groups which were easy to compare with each other. (*Sarnat Score 1*: Absolute uncooperative behavior; child is screaming or yelling; the child refuses to remain seated in the dentist's chair, *Sarnat Score 5*: Active cooperation; smiling; conversation without problems) (Sarnat et al. 1972).

## Questionnaire

The questionnaire was carried out in a university dental clinic (Dental Clinic of Operative Dentistry and Periodontology at the University of Rostock, n = 26 participants), as

well as in a private dental practice (Neukloster, in the administrative district of Northwest Mecklenburg, n = 62 participants). The newly developed questionnaire consisted of two separate parts to be answered.

In the first part, personal data were empirically determined. (age, status of teeth, gender, social status of the parents, the Sarnat Score). This form was filled out personally by the subjects. Children under the age of 9 years had the forms read aloud to them by their parents.

In the second part of the questionnaire 42 items were presented in which the feelings of the subject were described. 18 of the 42 items deal with the atmosphere and impact of the entire dental facility. With 21 additionally items, the subjects were questioned about the individual behaviour of the dentist. The subjects assessed items such as honesty, the ability of the dentist to describe a procedure, and how willing the dentist was to help. Each answer had to be scored by 1 (meaning disagrees completely) to 4 (meaning agrees completely). Three further items concern the general anxiety disposition. The questions in these three different categories were answered at random. Some of the questions were taken from existing validated questionnaires (DAS = Dental anxiety scale, DFS = Dental Fear Survey) (Portmann and Augustiny 1998). Additionally, items regarding the individual behaviour of the dentist were surveyed, which allows for a characterization of their personality profile. Table 6 shows the questionnaire. One

part of the items was developed on the basis of several other dental questionnaires. (Dental anxiety Scale, Hierarchischer Angstfragebogen and Dental fear Survey). The other part of items was formed as consequence to many journal reviews which emphasized different reasons for uncooperative behaviour of children (Lehnartz 2003; Stouthard and Mellenbargh 1993).

Time of Recording

Data collection for this study took place within one year. Data were collected both in the morning and in the afternoon between 8 A.M. and 4 P.M. Each of the studied subjects came to one, previously scheduled appointment.

Structured Interview

The waiting area of the dental facilities served as the location for questioning. The questionnaire was read by the same dentistry student in each case. All patients were asked to complete the questionnaire before dental treatment occurred.

The results of this study were calculated with the statistic program SPSS (Version 10, IBM, Armonk, USA). During calculations, independent T Tests, Chi-Square Tests and Spearman Correlations were carried out. The significance level was set with  $p = 0.05$ . Figure 1 shows the study design.

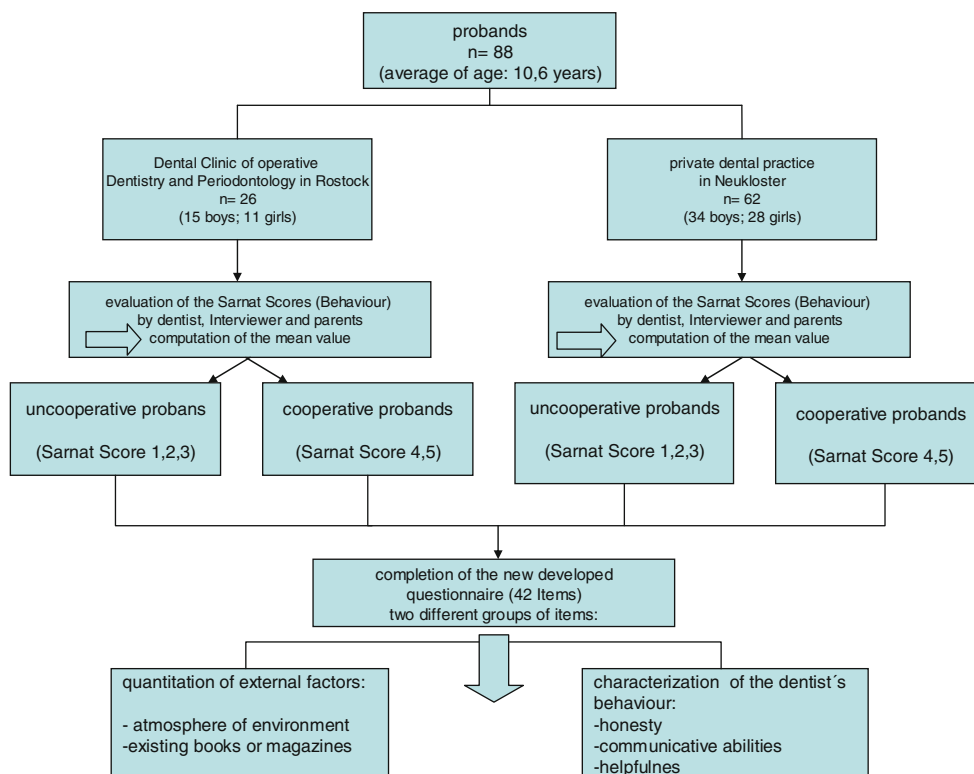


Fig. 1 Study design

The test quality criteria reliability and validity will be evaluated in a further study to investigate the empowerment of the new developed questionnaire.

## Results

### Characteristics of the Sample

All 88 subjects were assigned to different groups based on the status of their teeth. The first group included 38 boys and 28 girls with a low DMFT-score ( $<10$ ) which indicated a good state of dental health. In the second group, 11 girls and 11 boys with a high DMFT-score ( $\geq 10$ ) were assigned, indicating weak dental health. In regard to the age of the subjects, 42 of the children and adolescents belonged to the younger group. 46 subjects were 10 years of age or older. Within the younger group, there were 35 patients with a DMFT-score below 10. Seven subjects exhibited a DMFT-score  $>10$ . In the older group, there were 31 children and adolescents with a low teeth status based on the DMFT-score and 15 subjects with a teeth status that was more than 10 based on DMFT. Fifty one percent of children with a low social status exhibited poor oral health based on the DMFT Index. This occurred less in children with a middle or high social status. (26 and 18 %, respectively). The age of the subjects showed no relationship to cooperative behavior. However, good oral hygiene was associated with cooperative patients ( $p = 0.034$ ). These results are summarized in Table 1.

### Differences in Answering

By median split an “uncooperative subject” group and a “cooperative subject” group could be formed and then compared with one another. 21 variables consisted of items which deal with the individual behaviour of the dentist. They are composed of three different aspects. The impact of the atmosphere in the dental facilities was questioned in 18 items. The last column in Tables 1, 2, 3, and 4 shows which of the 39 variables results in significant ( $p = 0.05$ ) group differences in the *T* Test with the Sarnat Score.

### *The Dentist's Readiness to Help*

The scores in Fig. 2 show in a statistically significant manner that the cooperative subjects estimated the dentist (52.2 %) as more willing to help ( $p < 0.001$ ). The uncooperative children (47.8 %) were significantly more often convinced that the dentist is hurting them on purpose ( $p < 0.001$ ) (Fig. 2; Table 2).

### *Honesty of the Dentist*

Cooperative children recognized the dentist statistically significant more as being honest ( $p = 0.003$ ). Patients who are less willing to be handled often said that they were being lied to. Uncooperative patients indicated significantly more that the doctor doesn't take a break in the procedure when pain was experienced ( $p < 0.001$ ). These scores can be seen in the graph (Fig. 3; Table 3).

### *The Ability of the Dentist to Describe the Dental Procedure*

Uncooperative subjects (47.8 %) were statistically less knowledgeable about the treatment processes ( $p < 0.001$ ). The same subjects were also less knowledgeable about the significance of individual instruments ( $p < 0.0001$ ). Overall, cooperative children (52.2 %) had a greater desire that the dentist talks with them and explains the procedures ( $p = 0.001$ ). It is of statistical significance that more cooperative children were aware of the necessity of regular dental checkups ( $p = 0.006$ ). The results can be seen in Fig. 4, and Table 4.

### *Atmosphere in the Dental Facilities*

Uncooperative children (47.8 %) payed more attention to the atmosphere as cooperative children do ( $p < 0.001$ ). However, the cooperative subjects (52.2 %) discovered existing pictures more often. The sensory impressions of the uncooperative subjects were more negative in evaluations than those of the cooperative children ( $p = 0.018$ ). Cooperative children requested more colorful clothing ( $p < 0.001$ ). As seen in Fig. 5 and Table 5, the typical smell and temperature were rated approximately the same by both patient groups.

**Table 1** Characteristics of the sample

	Gender		Age		Social status		
	Male	Female	$<10$ years	$\geq 10$ years	Low	Middle	High
DMFT-Index $< 10$	38	28	35	31	43	65	72
DMFT-Index $\geq 10$	11	11	7	15	45	23	16

**Table 2** Dentist’s helpfulnes

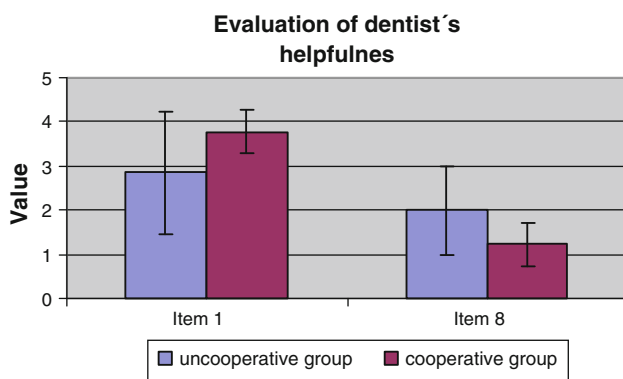
	Uncooperative group	Cooperative group	<i>df</i>	<i>p</i>
Item 1	2.85 (1.4)	3.78 (0.5)	37.7	0.001**
Item 8	2 (1)	1.22 (0.5)	41.4	<0.001***

**Table 3** Dentist’s honesty

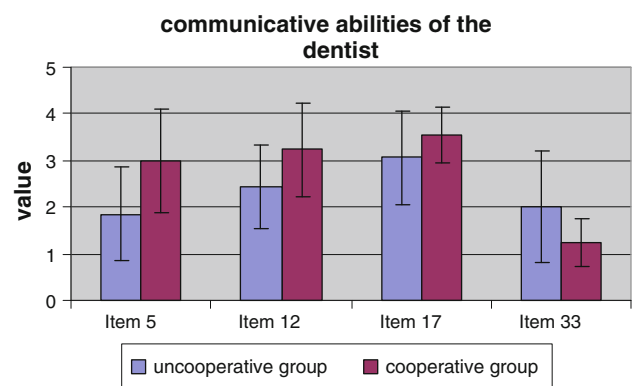
	Uncooperative group	Cooperative group	<i>df</i>	<i>p</i>
Item 25	3.18 (0.9)	2.4 (1)	86	<0.001***
Item 35	2.45 (1.1)	3.18 (0.9)	57.8	0.003**

**Table 4** Communicative abilities

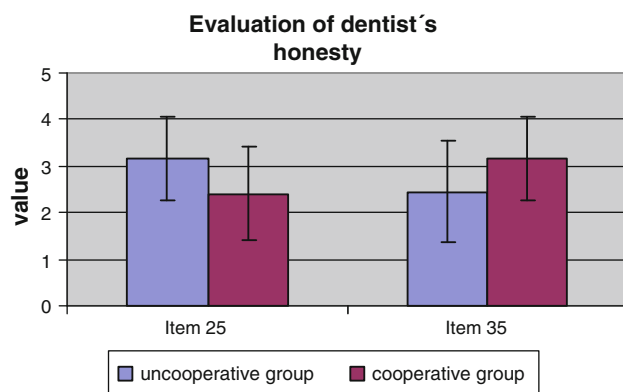
	Uncooperative group	Cooperative group	<i>df</i>	<i>p</i>
Item 5	1.85 (1)	3 (1.1)	86	<0.001***
Item 12	2.45 (0.9)	3.24 (1)	86	<0.001***
Item 17	3.06 (1)	3.55 (0.6)	46	0.006**
Item 33	2 (1.2)	1.24 (0.5)	38	0.001**



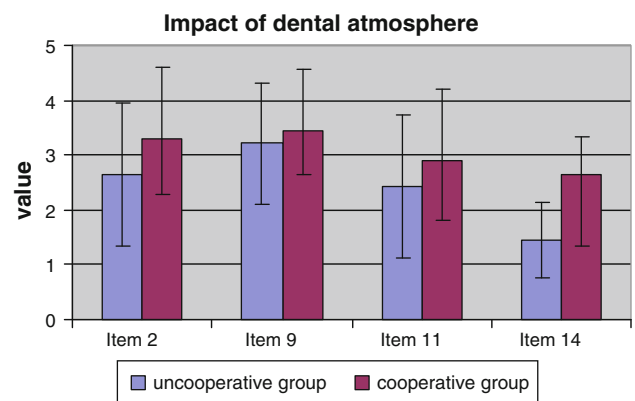
**Fig. 2** Dentist’s helpfulnes



**Fig. 4** Communicative abilities



**Fig. 3** Dentist’s honesty



**Fig. 5** Dental atmosphere

**Table 5** Dental atmosphere

	Uncooperative group	Cooperative group	<i>df</i>	<i>p</i>
Item 2	2.64 (1.3)	3.29 (1)	56.1	0.018*
Item 9	3.21 (1.1)	3.45 (0.8)	86	0.265
Item 11	2.42 (1.3)	2.90 (1.1)	57.7	0.087
Item 14	1.45 (0.7)	2.65 (1.3)	85	<0.001***

## Discussion

The aim of this study was to develop a questionnaire which characterizes the sensations of children at the dentist. The results of this study showed that the questionnaire identifies a relationship between uncooperative behavior and sensitivity to atmosphere as well as the dentist's behavior. Widely used measurement instruments such as the Dental Anxiety Scale by Portmann and Augustiny (1998) or the Dental Fear Survey by Kleinknecht et al. (1973) record the current state anxiety, but they explain no causes or reasons why (Stouthard and Mellenbargh 1993). When designing the questionnaire, it was taken into consideration to make the questions easy in answering both for young children and for adolescents. Particularly notable, was how many children answered the questions very precisely and spontaneously. This consists with the results from Musch et al. (2002) which states that children younger than 11 years are less afraid in case of social rejection. Younger children are very honest in the assessment and description of people, as the desire to be socially accepted is not yet so pronounced (Musch et al. 2002). In our study we can distinguish between young patients whether the dentist as a person or the atmosphere of the dental facilities causes fear to rise up from the dental treatment chair. Both of these factors are also important for Abrahamsson et al. (2000), for the individual analysis of dental anxieties. In the following, the findings will be commented on individually:

- *Uncooperative children are not convinced about their dentist's willingness to help.* According to Ter Horst, children don't recognize their dentist's willingness to help and reduce any possible pain (ter Horst and Hoogstraten 1988). Additionally, unwilling pediatric patients assume that the dentist intentionally inflicts pain. In this case, the dentist may appear as a threatening person to the subject. According to Försterling (Försterling 1994) the assessment of threatening situations is part of the attribution of self-esteem and explains one's uncooperative behavior.
- *Cooperative subjects are better informed about procedures and the necessity of instruments,* due to the fact that they are more motivated to listen to the dentist. They are able to retain the information better. The results correspond with a study by Petty (1986) where uncooperative

children are very preoccupied with defense behavior. Consequently, they are not able to fully comprehend information regarding the instruments (Petty 1986). Only the cooperative children, however, want to have an explanation of the treatment procedure. For uncooperative patients, detailed explanations cause a delay in the treatment procedure, prolonging the treatment time. The dentist is therefore responsible to arouse an interest in the child for the treatment procedure. According to Wright (1983) this motivation must always be distinct and newly remodeled to fit the needs of the patient.

- *Uncooperative patients often feel that they are lied to by the dentist.* As stated by Hosey (2002) some dentists are dishonest in order to carry out urgent treatment. Contrary to cooperative children, it is difficult to announce a painful impending procedure to uncooperative children. The defensive attitude of the child does not allow for this (Hosey 2002). A lie is often the only way to facilitate treatment.
- *Cooperative children report more often about an interruption in treatment caused by emerging pain.* Due to the fact that a break is usually associated with renewed defensive behavior, dentists fear not being able to complete treatment in uncooperative patients. This was shown in a study by Holland (1974). Phobic behavior therefore is encouraged by negative reinforcement; in other words, maintained.
- *Uncooperative patients pay more attention to the atmosphere than patients willing to be treated.* Overall, they are more anxious because they expect a negative experience (Murray et al. 1989). According to Murray, uncooperative children pay more attention, for example, to the sanitary facilities.
- *Uncooperative children don't wish to see the dentist in colorful clothing.* According to Armfield et al. (2006) this could be because the children have a dominating fixed image of a doctor and the doctor must appear in white clothing. A change in this image would possibly overwhelm uncooperative patients. Hellar-Euler-Rolle (2006) recognizes the color "white" as a signal which shows the child that the dentist possesses professional expertise, that allows them to diagnose and treat.

Existing pictures in the treatment room were observed more by cooperative subjects. The assumption that



uncooperative subjects observe their environment with more detail didn't apply in the present study. However, the limited perception in conjunction with tunnel vision could also be traced back to anxiousness in the treatment room. This view was reached by Neisser (1990).

Whether or not music was played during the treatment, was something, however, which the uncooperative children recognized in a better way. In these children, it is possible that the memory of treatment was associated with the music. A study from Lang and Faller (1998) showed similar results, in which mood dependent learning was examined (Table 6).

Uncooperative subjects found the dental treatment rooms to be dismal. A feeling of suffocation and constriction is often a symbol for cruelty (Baker 2008). According to Lehnartz (2003) foreign objects in the oral cavity such as the spatula, probe, or impression trays can exacerbate the situation.

The age of the subjects in this study did not show any influence on how the items regarding dental atmosphere were answered. Perhaps the relatively small control sample is the cause for these facts. Cuthbert and Melamed (1982), however, describes the beginning of the school age as the start for a cooperative attitude and for a less skeptical view of the atmosphere. After treatment small gifts are only handed out to cooperative subjects regularly while uncooperative children don't receive any reinforcing gimmick. It is necessary that reinforcing gifts are given regularly and continually, as explained by Ashkenazi in a previous study (Ashkenazi et al. 2002).

Uncooperative children are not personally greeted as often and are not satisfied because they long for special attention. A friendly greeting at the beginning of a dentist visit is important to establish the first contact with a child. Seemingly small details, like addressing the patient by name or questions regarding topics from the last appointment help both patient and dentist adjust to each other (Raith 1986). When a child looks at the dentist and the dentist is reminded of the last "stressful" treatment, the dentist doesn't greet the patient and the first communication takes place in a non-neutral treatment room. In this case, a self-fulfilling prophecy can be assumed, because the behavior of the dentist causes uncertainty in the patient (Aronson and Akert 2004). Even though it can be difficult to be friendly and unbiased to some patients, this behavior is rewarded according to Aronson and Akert (2004).

The results of this study show that the education level of the parents has a considerable influence on the oral health status of their children. Especially mothers with a university degree correlate with children presenting low DMFT values. Only 15 % of the mothers of subjects with a worse oral health status have a university degree. Similar results are shown in the "Fourth German Oral Health Study"

(DMS IV) from 2005 (Fröhlich 2005). It can thus be assumed in this study that this is a representative survey.

Seventy eight percent of children who have a check up at the dentist at an early age (before the age of 3) show a low DMFT-Index. More than two-thirds of these parents feature a high education level or social status. Varsio et al. (1999) describes the role of parents in cavity prevention by the fact that there is a relationship between parental tooth status, knowledge, and attitude towards dental health and the incidence of cavities in their children (Varsio et al. 1999). There is no statistical difference between boys and girls in relation to the tooth status based on the DMFT-Index.

As a main result our study shows that inner and outer factors play a crucial role in stress-free treatment of children. A relaxed atmosphere with available reading in the waiting room, the dentist's colorful clothing, and pictures on the wall of the treatment room are not so essential for successful treatment as certain characteristics of the dentist. Honesty is appreciated as well as a prepared explanation of the treatment procedure. Almost all children want rapid treatment. The challenge is to get the child interested in their treatment and to establish a sustainable rapport. The child wants to be involved in decisions and is thankful, for example, when it is allowed to choose the color of a filling. Some "special" patients probably provoke dismissive behavior in the dentist. The often tense and uncomfortable situation in anticipation of an uncooperative child must be avoided by the dentist.

The fact that children of parents with a higher education level show better oral health than children of parents with lower education level corresponds with the results of previous studies. In a further study, the dentist should soon assess his or her approach and feelings in certain treatment situations and determine them with the help of a questionnaire. The same situations will then also be newly described and evaluated by the children so that certain courses of treatment are gathered from different perspectives. The subsequently planned study will be more comprehensive in terms of the number of subjects.

## Conclusion

The introduced questionnaire analyzes two main components of dental treatment anxiety. The relationship between dentist and patient as well as the atmosphere of the dental facilities are presented. Previous existent questionnaires mostly consider only one of the two components. Our questionnaire is especially constructed for children due to a child-friendly wording of the questions.

It could be shown that the different cooperation behavior of children is associated with significant differences in

**Table 6** Items of the new developed Questionnaire

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1. Ich denke mein Zahnarzt versucht mir zu helfen  
(I think my dentist wants to help me)
  2. Der Praxisraum, indem ich mir die Zähne putzen kann ist angenehm sauber und ordentlich  
(The room where I can brush my teeth is clean and tidy)
  3. Ich denke mein Zahnarzt weiß nicht, was er tut  
(I think the dentist is aware of what he is doing)
  4. Wenn ich an den Zahnarztbesuch denke, wird mir übel  
(When I think about the dental appointment I get sick)
  5. Von den Geräten und Instrumenten, die mein Zahnarzt benutzt, kenne ich alle und weiß wofür er sie benutzt  
(I know the instruments my dentist uses and know the reason why he uses them)
  6. Am Empfang werde ich persönlich begrüßt  
(At the entrance I get a personal greeting)
  7. Das gefällt mir (I like it)
  8. Ich denke mein Zahnarzt versucht absichtlich mir weh zu tun  
(I think the dentist tries to hurt me intentionally)
  9. Die Temperatur in der Praxis ist angenehm  
(The temperature in the dental office is comfortable)
  10. Ich fühle mich wohl, wenn mir mein Zahnarzt alles erklärt  
(I feel comfortable when my dentist explains the treatment)
  11. Der typische Geruch beim Zahnarzt ist Nicht unangenehm für mich  
(The typical smell in the dental office is not unpleasant)
  12. Die Instrumente, die mein Zahnarzt benutzt tun weh, und ich weiß es ist nötig  
(The instruments my dentist uses are aching and I know it is necessary)
  13. Mein Zahnarzt ist wie ein Freund  
(My dentist is like a friend)
  14. Der Zahnarzt sollte bunte Kleidung tragen  
(The dentist should wear coloured clothes)
  15. Mein Zahnarzt sagt, dass ich wieder kommen muss, weil mir sonst etwas Böses passiert  
(My dentist tells me that there will happen something bad if I don't come back)
  16. Der Empfangsbereich ist unangenehm grell mit hellem Licht  
(The Light in the entrance is uncomfortable and loud)
  17. Mein Zahnarzt erklärt mir, weshalb ich regelmäßig zum Zahnarzt gehen muss  
(My dentist explains to me why I have to visit the dental office regularly)
  18. Bei einer Zahnbehandlung beginne ich zu schwitzen  
(I begin to sweat during the dental treatment)
  19. Ich weiß, dass ich nach der Behandlung ein kleines Geschenk bekomme  
(I know that I get a little present after the treatment)
  20. Im Behandlungsraum hängen Bilder, die ich mir ansehen kann  
(In the treatment room are pictures on the wall which I can watch)
  21. Mein Zahnarzt sagt mir es tut nicht weh, aber dann tut Es weh  
(My dentist tells me that it won't hurt but then it does!)
  22. Im Wartezimmer gibt es Spielzeug, mit dem ich mich beschäftigen mag  
(In the waiting area are toys which I can play with)
  23. Mein Zahnarzt besitzt Videos für Kinder, die ich mir ansehen darf  
(My dentist owns videos for children which I can watch)
  24. Das gefällt mir  
(I like that)
  25. Mein Zahnarzt sagt, ich soll mich bei Schmerzen bemerkbar machen, aber er macht dann einfach weiter  
(My dentist tells me to announce if the treatment is aching but he just continues)
-



**Table 6** continued

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26. Mein Zahnarzt sagt mir, ich stelle zu viele Fragen (My dentist tells me that I ask too many questions)
27. Der Anblick einer Spritze macht mir Angst (The sight of a syringe makes me anxious)
28. Mein Zahnarzt sagt überhaupt gar nichts, wenn ich eine Frage stelle (My dentist doesn't answer my questions)
29. Vor der Behandlung möchte ich am liebsten weg laufen (I want to run away before the treatment)
30. Mein Zahnarzt sagt mir was er in dieser Sitzung machen wird und macht auch nur das (The dentist explains to me what he is going to do during the appointment and really just does that)
31. Im Wartezimmer gibt es Bücher und Zeitschriften extra für Kinder (In the waiting area are books and magazines especially for kids)
32. Die Praxisräume bedrücken mich ein wenig (The rooms in the dental office are a little bit depressing)
33. Ich würde mich besser fühlen, wenn mein Zahnarzt gar nicht mit mir redet (I would feel better if the dentist doesn't speak with me)
34. Mein Zahnarzt behandelt mich wie ein Baby (My dentist treats me like a baby)
35. Dinge, die gelogen sind, sagt mir mein Zahnarzt nie (My dentist doesn't tell me things which are not true)
36. Im Behandlungsraum wird Musik gespielt (There is music in the treatment room during the appointment)
37. Das finde ich angenehm (That is comfortable)
38. Mein Zahnarzt spricht zu viel mit mir (My dentist speaks with me too much)
39. Das Wartezimmer ist gemütlich eingerichtet (The waiting area is cosy equipped)
40. Mein Zahnarzt ist sauber und ordentlich (My dentist is tidy and clean)
41. Mein Zahnarzt behandelt mich wie einen Erwachsenen (My dentist treats me like an adult)
42. Mein Zahnarzt ist chaotisch (My dentist seems to be chaotic)

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responses to individual items. The same is true with the factors of the subject's tooth status based on the DMFT index.

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