

# What to wear when practicing on pediatric dental patients?

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## ABSTRACT

**Background:** The appearance of the clinician is considered to have an effect on a patient's impression of the dental environment and to affect the doctor–patient relationship. **Aim:** The aim of this study was to identify children's and parents' preferences regarding dentist's attire and their relationship to dental anxiety, previous experiences, and socioeconomic levels. **Methods:** The study was conducted with 500 patients between 5 and 11 years of age and their parents. Participants were asked to respond a questionnaire, and preference of dental attire was determined by showing photographs of either a female or a male pediatric dentist in the three different modes of attire. **Statistics:** Chi-square test, Mann–Whitney U-test, and Spearman Rho correlation test were used for statistical analysis. **Results:** The majority of children and their parents were found to prefer pediatric dentists to wear white coats; however, children with a systemic disease, dental anxiety, and previous negative dental experience preferred casual dress ( $P < 0.05$ ). **Conclusion:** Previous experiences and general health have a strong effect on children's preferences related to their dentist's attire.

**Key words:** Dental anxiety, Dentist attire, Previous dental experiences, Socioeconomic levels

## Access this article online

### Website:

[www.jpediatrident.org](http://www.jpediatrident.org)

### DOI:

10.4103/2321-6646.185258

### Quick Response Code:



## INTRODUCTION

Pediatric clinicians aim to develop a trusting relationship with patients of all ages and personalities as well as with their parents. Especially in pediatric dentistry, dental fear and anxiety are the main factors compromising treatment success, and overcoming this problem remains a significant challenge. Factors such as the behavior of the dentist as well as the personality of the patient and his/her fear of the unknown and the past traumatic dental experiences affect patient behavior in the dental clinic.<sup>[1–3]</sup> Patients often describe the dental office as an environment that provokes anxiety due to loud noises and the probability of pain. This situation makes the successful relationship between pediatric dentist and child, the key in determining treatment outcome.<sup>[4]</sup>

Disregarding variations related to social norms, expectations, and definitions of professionalism and work culture, the white coat has long been accepted as the uniform of medical professionals and the image of the white coat is familiar from hospitals and the media. However, since the 20<sup>th</sup> century, the white coat has been

seen as a boundary to communication between patients and doctors.<sup>[5]</sup> In recent years, physicians have begun to see patients without a white coat with the aim of establishing better communication with their patients.<sup>[4]</sup> An argument has been made for limiting the use of the white coat to bridge the gap between physician and patient and thus, facilitate closer provider–patient relationships.<sup>[6]</sup> However, some researchers mentioned that a friendly manner of the physician might be more important.<sup>[4,7,8]</sup>

It is generally believed that dental fear and anxiety have multifactorial etiologies that are still not fully understood.

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**How to cite this article:** Zeren AE, Öktem ZB, Can İ, Bezgin T, Özalp N. What to wear when practicing on pediatric dental patients?. J Pediatr Dent 2016;4:37–41.

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The behavior management problems in children are associated with internal and external factors. Dental anxiety of internal origin encompasses factors related to the person rather than those directly associated with dental treatment.<sup>[9]</sup> However, dental anxiety of external origin is caused by negative dental experiences.<sup>[9,10]</sup>

While the etiology of dental anxiety is complex, white coat phenomena can be a variable for its development.<sup>[11]</sup> Therefore, this study aimed to identify children's and parents' preferences regarding dentist's attire related to dental anxiety, previous experiences, and socioeconomic levels.

## METHODS

This study was conducted with 500 patients between 5 and 11 years of age and their parents who presented to the Department of Pediatric Dentistry. An explanatory letter including the purpose of the research was given to participant's parents along with a consent form.

Photographs of a female and a male pediatric dentist in three different types of attire – a traditional white dental uniform, a colored dental uniform considered “child-friendly,” and casual clothes – were taken with standardized physical stance, hairstyle, and facial expression.

Participants and parents were then asked to respond to a questionnaire that included demographic information (child's sex and date of birth, parent's sex and educational level, monthly family income) as well as information on the overall physical health of the child and other factors that might affect dental fear/anxiety (previous fear of a doctor, previous experience of a dental visit, patient's motivation for treatment, any preference regarding sex of the dentist). Children's anxiety levels were assessed using Frankl scale with four items to be rated from 1 (definitely negative) to 4 (definitely positive). Preference for dental attire was determined by showing children's and parents photographs of either a female or male pediatric dentist (in line with their indicated preferences) in the three different modes of attire described above and then asking children to indicate their preference [Figure 1]. Children and their parents responded this last question in different rooms to prevent one from influencing the other.

Chi-square test, Mann–Whitney U-test, and Spearman Rho correlation test were used for statistical analysis, with a  $P < 0.05$  considered to be statically significant.

## RESULTS

A total of 500 children aged 5–11 years and their parents participated in the study. The mean age of children



Figure 1: Attires used in the study

was  $7.8 \pm 1.6$ , and the majority of children were boys (56.6%,  $n = 283$ ; girls: 43.4%,  $n = 217$ ). Table 1 shows the demographic status of participants.

Table 2 shows previous medical and dental history of children. Out of 500 children, 74 (14.8%) had not

previously visited a dental clinic. Of the remaining 426 children, 122 had had negative experience during a previous visit to a dental clinic. Overall, children were

**Table 1: Demographic data of the study**

	Girl (n=217) n (%)	Boy (n=283) n (%)	Total (n=500) n (%)
Mean age (year)	7.9 (1.5)	7.7 (1.7)	7.8 (1.6)
Parent gender			
Female	145 (66.8)	221 (78.1)	366 (73.2)
Male	72 (33.2)	62 (21.9)	134 (26.8)
Parent's education			
Primary school	89 (41.0)	78 (27.6)	167 (33.4)
Intermediate school	20 (9.2)	44 (15.5)	64 (12.8)
High school	68 (31.3)	99 (35.0)	167 (33.4)
University	40 (18.4)	62 (21.9)	102 (20.4)
Socioeconomic status			
Low	68 (31.3)	101 (35.7)	169 (33.8)
Moderate	106 (48.8)	136 (48.1)	242 (48.4)
High	43 (19.8)	46 (16.3)	89 (17.8)

**Table 2: Previous medical and dental history**

	Girl (n=217) n (%)	Boy (n=283) n (%)	Total (n=500) n (%)
Systemic disease			
Yes	35 (16.1)	26 (9.2)	61 (12.2)
No	182 (83.9)	257 (90.8)	439 (87.8)
Previous hospital experience			
Negative	43 (19.8)	76 (26.9)	119 (23.8)
Positive	174 (80.2)	207 (71.1)	381 (76.2)
Previous dental consultation			
Yes	188 (86.6)	238 (84.1)	426 (85.2)
No	29 (13.4)	45 (15.9)	74 (14.8)
Previous dental experience			
Negative	68 (36.2)	54 (22.7)	122 (28.6)
Positive	120 (62.8)	184 (77.3)	304 (71.4)

significantly more likely to prefer a dentist of the same sex ( $P < 0.001$ ). However, children who visited a dental clinic for the first time as well as children who had had a previous negative experience were significantly more likely to prefer a female dentist to a male dentist ( $P < 0.001$ ).

Table 3 shows children's preferences in dentist attire and dentist gender according to the previous experiences, and Table 4 shows parents' preferences in dentist attire according to education and socioeconomic levels. The white coat was the preferred attire for the majority of both boys (56.2%,  $n = 122$ ) and girls (63.6%,  $n = 180$ ), followed by casual dress (boys: 26.1%; girls: 33.6%) and a colored coat (boys: 8.5%; girls: 8.8%). The differences in preferences among attire based on a previous dental visit were not statistically significant ( $P > 0.05$ ), with both children who had previously visited a dentist and those on the first-time visit preferring the white coat; however, when children with positive and negative dental experiences are compared, a statistically significant difference was found in preferences, with 72.1% of children with positive previous dental experiences preferring the white coat and 52.9% of those with previous negative dental experiences preferring casual dress ( $P < 0.05$ ). When the effects of previous experiences related to hospital visits were examined, no significant difference in preference for dental attire was found among children who had previous positive experiences and those with previous negative experiences ( $P > 0.05$ ). However, among children with a systemic disease who must visit a hospital regularly, casual dress was preferred ( $P < 0.05$ ).

Parental education levels were found to have a significant impact on their preference in dental attire ( $P < 0.001$ ). Although parents from all education levels tended to prefer the white coat, the rate of preference decreased significantly with increases in education level ( $P < 0.001$ ).

**Table 3: Children's preferences in dentist attire and dentist gender according to previous experiences**

	Colored coat n (%)	Casual dress n (%)	White coat n (%)	$\chi^2$	P
Systemic disease					
Yes	2 (3.3)	30 (50.0)	28 (46.7)	13.956	0.001
No	41 (9.5)	117 (27.1)	274 (63.4)		
Previous hospital experience					
Negative	9 (7.8)	44 (37.9)	63 (54.3)	4.698	0.095
Positive	34 (9.0)	103 (27.4)	239 (63.6)		
Previous dental consultation					
Yes	37 (8.8)	118 (28.2)	264 (63.0)	4.024	0.134
No	6 (8.2)	29 (39.7)	38 (52.1)		
Previous dental experience					
Negative	8 (6.6)	64 (52.9)	49 (40.5)	57.579	<0.001
Positive	29 (9.7)	54 (18.1)	215 (72.1)		
Dentist gender preferences					
Female	20 (8.1)	83 (33.5)	145 (58.5)	0.411	0.814
Male	15 (7.9)	58 (30.7)	116 (61.4)		

**Table 4: Parent's preferences in dentist attire according to education and socioeconomic levels**

	Colored coat <i>n</i> (%)	Casual dress <i>n</i> (%)	White coat <i>n</i> (%)	$\chi^2$	<i>P</i>
Gender					
Female	56 (15.4)	44 (12.1)	253 (69.5)	8.415	0.038
Male	17 (13.3)	29 (22.7)	79 (61.7)		
Parent's education					
Primary school	12 (7.2)	33 (19.8)	115 (68.9)	50.963	<0.001
Intermediate school	4 (6.3)	1 (1.6)	55 (85.9)		
High school	26 (16.0)	27 (16.7)	107 (66.0)		
University	31 (31.3)	12 (12.1)	55 (55.6)		
Socioeconomic status					
Low	9 (5.3)	32 (18.9)	123 (72.8)	40.023	<0.001
Moderate	53 (22.4)	18 (7.6)	159 (67.1)		
High	11 (12.8)	23 (26.7)	50 (58.1)		

Socioeconomic levels of parents also played a significant role in preferences for dental attire ( $P < 0.001$ ). Parallel to the findings on education levels, the rate of preference for the white coat decreased significantly with increases in socioeconomic level.

The majority (71.1%) of parents whose children had no systemic conditions preferred casual dress ( $P < 0.001$ ); however, preference for casual dress and a colored coat was observed at approximately equal rates among parents whose children had systemic conditions ( $P > 0.05$ ).

When preferences were compared according to the dental anxiety as identified through the Frankl Behavior Rating Scale, statistically significant differences were found according to the absence/presence of dental anxiety ( $P < 0.001$ ). While children with dental anxiety (Frankl Score of 1 or 2) preferred casual dress (72.5%), over a white coat (23.8) and a colored coat (3.8%), children without dental anxiety (Frankl Score of 3 or 4) preferred a white coat (68.7%), over casual dress (21.6) and a colored coat (9.7%).

## DISCUSSION

To reduce potential anxiety, pediatric dentists require techniques such as tell-show-do, voice control, and distraction during treatment. Today's child-friendly approach to dental environment design also helps children to adapt and cooperate with dental treatment.<sup>[12]</sup> The appearance of the clinician is also considered to have an effect on a patient's impression of the dental environment and to affect the doctor–patient relationship.<sup>[13–15]</sup> McKenna *et al.*<sup>[16]</sup> examined patients' opinions on dental clinical attire, name badges, and cross-infection control measures and found that a majority of patients consider clinical attire to be important. A detailed study conducted by Brosky *et al.*<sup>[17]</sup> examined how patients perceived the professionalism of dental students and found that patient

confidence levels were influenced by their first impressions of dental students and that anxiety levels were affected by the attire of the dental-care provider. Panda *et al.*<sup>[15]</sup> stated that children do have strong perceptions and preferences related to their dentist's appearance, and this has an effect on the first impression. Thus, in pediatric dentistry, precautions should be taken against all possible causes, and a better understanding of their roles in dental anxiety is vital.<sup>[5]</sup>

Many studies have been carried out to understand the role of professional attire in the provider–patient relationship. In a study in which both patients and dentists were asked about preferences regarding the white coat, Tibdewal *et al.*<sup>[5]</sup> found that patients believed a dentist should wear a white coat for easy identification, with older patients more likely to be in favor of a white coat than younger patients. Similar results were obtained by Douse *et al.*<sup>[18]</sup> Menahem and Shvartzman<sup>[14]</sup> also reported more than half of the participants in their study preferred doctors to wear a white coat, with a more distinct preference observed among older individuals. The present study confirmed these findings that adults generally prefer traditional dental attire as the 66% of the parents preferred traditional white coat.

Whereas the majority of studies above-mentioned with adult patients indicate that they expect a formally dressed dental-health-care provider, a few studies examining children's preferences regarding doctors' and dentists' attire have reported contradictory results. Cohen<sup>[19]</sup> found that children aged 2–15 years were not affected by dental attire; however, the author advocated informal attire as a way of making young patients more comfortable in their surroundings. In contrast, Marino *et al.*<sup>[20]</sup> compared formal versus informal attire and noted children may have negative impressions about informal attire. Matsui *et al.*<sup>[21]</sup> suggested that physicians might wear a white coat without fear of negatively affecting their relationship with their



4–8-year-old patients, and McCarthy *et al.*<sup>[7]</sup> found no evidence to confirm the popular belief that children are afraid of physicians in white coats. Similar to these studies, the present study found that majority of the children preferred white coat; however, preferences in dental attire were found to be affected by systemic diseases, dental anxiety, and previous negative dental experiences.

In a study similar to ours, Kusu *et al.*<sup>[4]</sup> assessed the relationship between children's choices for different kinds of dental attire and their levels of dental anxiety. Overall, in contrast to general belief, most children (45.6%) were found to prefer formal attire, followed by "child-friendly" attire (30.5%). However, the researchers noted that anxiety negatively affected children's preferences for formal attire, and they suggested that "child-friendly" attire might be appropriate for anxious children. In the present study, while preferences in dental attire were not found to be affected by the sex of the child or by a previous dental or hospital visit, children with systemic diseases or dental anxiety as well as those who had had a previous negative dental experience were significantly more likely to prefer casual dress over a dental coat. These findings are in line with recent studies<sup>[22,23]</sup> showing significantly fewer anxious children preferred formal dental attire than nonanxious children, and they support the concern that the white coat may be inappropriate for children with previous negative dental experiences or dental anxiety.

## CONCLUSION

The results obtained from this study showed that in contrary to what is widely believed, most children preferred the dentist to wear a white coat when compared to other attires. Still, children with previous negative dental experiences, systemic disease, and dental anxiety were found to prefer casual dress over the white coat, suggesting that casual dress on the part of the practitioner may help to improve patient cooperation.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/ their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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