

# PREFERENCES AMONG CHILDREN FOR DIFFERENT CARTOONS, COLORS, DENTAL CHAIR AND DENTIST ATTIRE AND ITS ROLE IN DESIGNING PAEDIATRIC DENTAL CLINIC- AN OBSERVATIONAL STUDY

Original Article

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## ABSTRACT

**Background:** Dentistry for children is not difficult but different from that for adults. In the modern era of advancement where everything is advancing, the design for paediatric dental clinic shouldn't be lacking behind. **Aim:** To provide best dental experience to children along with addition of technology, the present observational study was conducted to know the recent trending interests for cartoons, colors, dental chair and dentist attire designs among children.

**Materials and Methods:** A personal interview was carried out in which among 100 children were shown different Placards in the form of collage after obtaining consent from their parents. Children aged between 4 and 9 years participated in this interview.

**Results:** Based on the response, it was observed that most of the children preferred Doraemon Cartoon, Pink and Orange Colors, Simple Dental Chair and White dentist Attire.

**Conclusion:** This can be utilized in creating a child friendly clinic which develops friendly relationship between the child and pediatric dentist and enhances a positive attitude towards dentistry from childhood.

**Key words:** Cartoon, Color, Dental Chair, Dentist Attire.

## INTRODUCTION :

“The Foundation of Practicing dentistry for children is the ability to guide them through their dental experience”. The experience of a child during the formative years can go a long way in formulating the individual personality as an adult. One of the multitudes of experiences is the visit to the dentist who, unfortunately, is often caricatured as a pain imparting tooth-puller in a child's mind.<sup>1</sup> Dental anxiety and fear of dental treatment in children are recognized in many countries as a public health dilemma.<sup>2</sup> The term dental fear and dental anxiety are often used synonymously<sup>3</sup> and are considered to be the main reason for behavior management problems and avoidance of dental care.<sup>4</sup> The changing expectations of children can encourage pediatric dentists to develop a more child-friendly atmosphere in their clinics. Environmental elements that produce positive feelings can reduce anxiety.<sup>5</sup> In fact, the attractiveness of the physical environment in the dental operatory has been shown to be significantly associated with higher perceived quality and satisfaction, higher reported positive interaction with staff and reduction in patient anxiety. Instead of adults choosing the dental environment for children, it is beneficial to accept preferences and choices of children as to what they

enjoy as patients. Therefore, this study was carried out to determine cartoon, color, dental chair and dentist attire preferences among children and its importance in designing Paediatric Dental Clinic.

## AIM AND OBJECTIVE :

To determine the cartoon, color, dental chair and dentist attire preferences among children and its Importance in designing Paediatric Dental Clinic.

## INCLUSION CRITERIA :

All the healthy children aged 4-9 years, coming for the first time waiting in the recreation area of the outpatient department in Department of Paediatric and Preventive Dentistry, Ahmedabad Dental College & Hospital were included in the study.

## EXCLUSION CRITERIA :

The Children with the past dental experience or with any Physical, Mental or emotional condition that could affect child's ability to understand & follow instructions were excluded from the study.

## MATERIALS & METHOD :

The present study included 100 children aged 4-9 years, randomly selected from the recreation area

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of the outpatient department in Department of Paediatric and Preventive Dentistry, Ahmedabad Dental College & Hospital, Ahmedabad, Gujarat, India. Ethical clearance from Institutional ethical committee was obtained, and also written informed consent of the parents/guardians. All the children's assented to participate in the study.

The Children and their Parents/guardians were first given instructions about the interview procedure in common room by examiner.

The examiner then interviewed each child separately in the presence of parent who was only

allowed to observe silently so as to avoid any bias.

The children were shown four different Placards containing varying colors in form of balloons, types of dental chair, different dental chair & various trending cartoons in the form of collage respectively.

The children were then asked to choose about their most preferred cartoon, color, dental chair and dental attire in each placard. Since it was a categorical data, the response noted was tabulated and calculated in form of frequency and percentage (%).

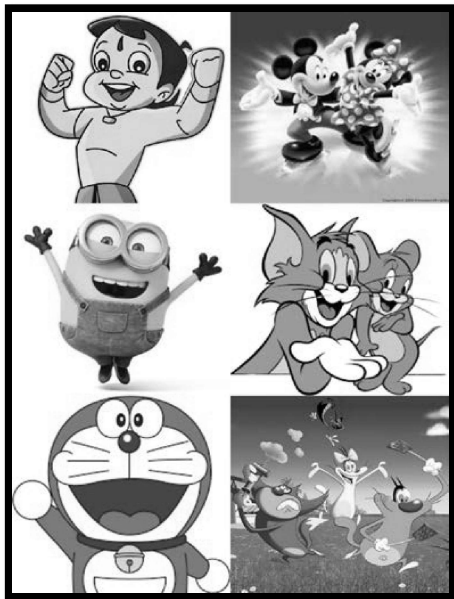


Figure 1: - Cartoon Placard



Figure 2: - Color Placard



Figure 3: - Dental Chair Placard

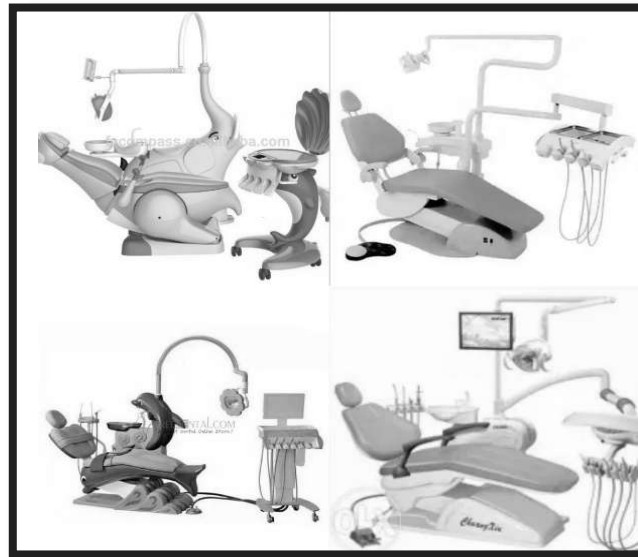


Figure 4: - Dentist Attire Placard

**RESULTS :**

Total 100 children of the age range 4-9 years participated in the study. Data obtained was calculated in the form of frequency and percentage (%).

On comparison of cartoons, doraemon was the most preferred cartoon (32%) among children followed by chota bheem (28%), Oggy and the Cockroaches (17%), Tom & Jerry (15%), Mickey & Minnie Mouse (6%), and Minion (2%).

When asked about color preferences, children preferred Pink and Orange color (33%) the most followed by Blue (19%), Green (8%), Yellow (4%), White (3%).

Among the Dental Chair Preferences, 53% children opted for Simple Dental Chair and 47% of the children preferred Pediatric Dental Chair.

For Dentist Attire, 50% of the children selected white type of attire while purple attire was chosen by 39% of children. Printed attire (11%) was least preferred among children.

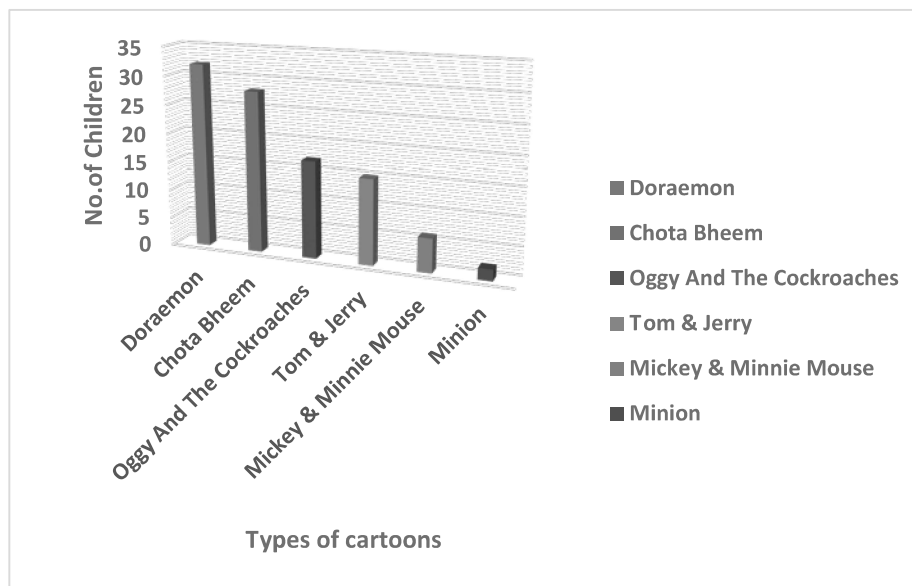


Figure 5: - Cartoon Preferences among children

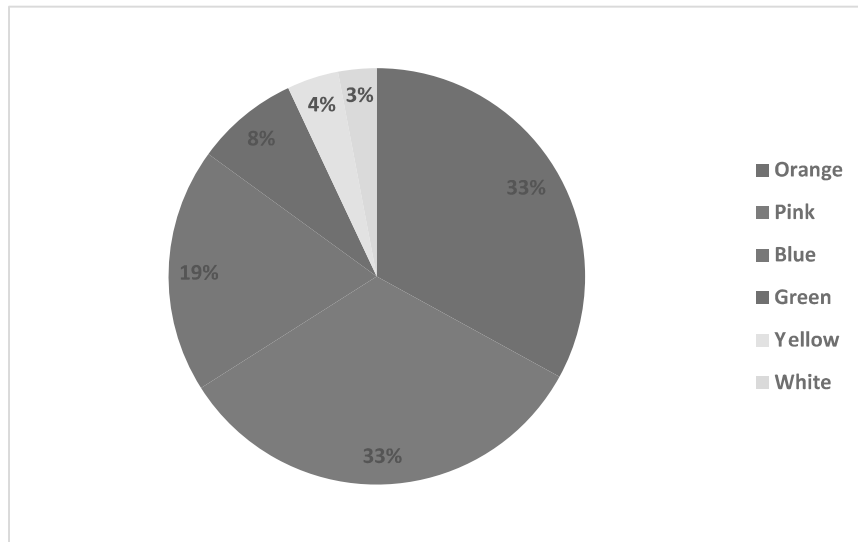


Figure 6: - Color Preferences among children

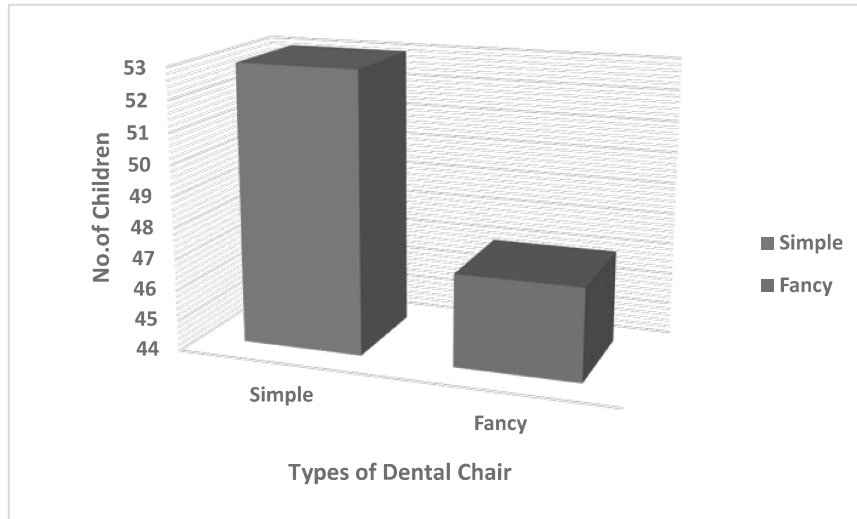


Figure 7: - Dental Chair Preferences among children

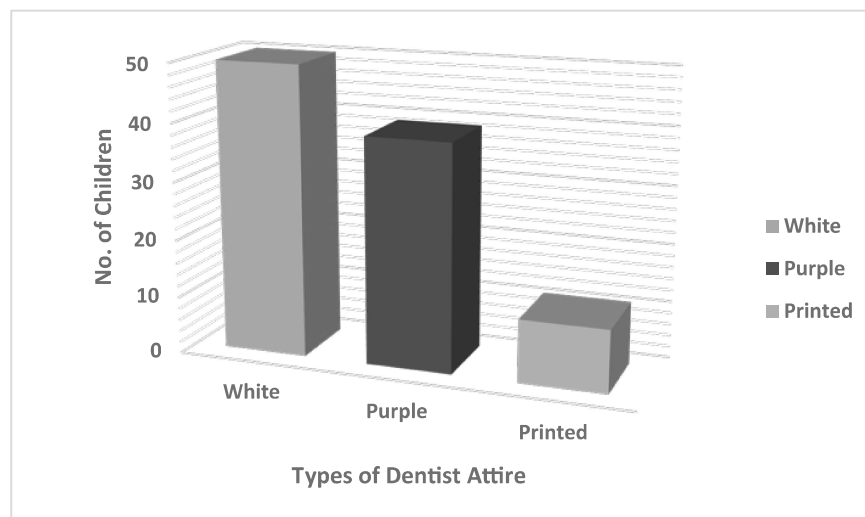


Figure 8: - Dentist Attire Preferences among children

## DISCUSSION

The present study was conducted to determine the preferences of children towards cartoons, colors, dental chair and pediatric dentist attire and to determine its importance in designing pediatric dental clinic.

Cartoons can help children get an early start on learning. The positive influence of cartoons on children can be seen especially in the case of educational cartoons that teach shapes, numbers, and colors. Such cartoons can teach basic things to children in a fun and interactive way, thus making learning an enjoyable activity. The moving, talking pictures and colorful visuals make learning interesting for children. Watching cartoons can help develop your child's cognitive skills. It can help develop logic and reasoning ability, visual and auditory processing, and sustained and selective attention of a child. Cartoons can expose your children to different languages, thus helping children in developing their linguistic abilities. Watching cartoons help increase children's imagination and creativity. Watching cartoons is a great way to teach your kids about local customs, traditions, history, and mythology. For example, watching animated versions of the Ramayana or Mahabharata can teach kids about Indian mythology. Watching cartoons about Aesop's Fables or Panchatantra can teach children about good morals, kindness, and compassion. Children often idolize their favourite cartoon character and mimic them or aspire to be like them.<sup>6</sup>

In the present study, children when given the choices were aware about the trending cartoon characters. The most preferred cartoon among the six characters given was doraemon and the least preferred was minion, the reason might be that the children might not have known or heard about older cartoons or characters which are less shown on television. After doraemon, chota bheem was chosen over the rest of the cartoons as it is one of most trending Indian Cartoon over recent times. Children often believe that Oggy and the Cockroaches and Tom & Jerry often hit each other or cause each other to fall from heights, often without any real consequences and hence they were less preferred.

There was lack of similar studies conducted

regarding cartoon preferences among children.

Color is a salient feature in a child's life. Color is one of the most instantaneous method of conveying messages and meanings. Color stimulates and works synergistically with all of the senses, symbolizes abstract concepts and thoughts, expresses fantasy or wish fulfillment, recalls another time or place and produces an aesthetic or emotional response.<sup>7</sup> Color has been studied from philosophical, biological, anthropological and psychological perspectives over the course of time.<sup>8</sup> Children were able to categorize colors according to several dimensions, most basic being whether or not a color perceived had a positive or negative effect on their emotions or whether or not they found the colors to be agreeable or not agreeable. In addition, they could link colors and emotions.<sup>9</sup> The discovery of the correlation between color and emotions and their effect on performance and productivity has recently been adopted in the work settings. Most of the exiting research on environmental design has been focused for healthy adults and those findings cannot be extrapolated for children.

Color therapist **June McLeod**<sup>10</sup> who worked with a nursery childcare organization, reported that the proper use of color can have extremely positive effects on the children including improved emotional development, increase sharing and co-operation, decreased noise levels, easier organization of thoughts, reduced tension and aggression, easier and more peaceful sleep in babies, and the creation of a calmer, happier and more relaxed environment.

**Hemphill**<sup>11</sup> also found that bright colors elicited positive emotions, while dark colors elicited negative emotions. **Cimbalo et al**<sup>12</sup> found that children used yellow, blue, green and orange to color happy scenes and red, black and brown for sad scenes. **Park**<sup>5</sup> investigated the color preference for pediatric patient rooms among the inpatients, out patients and healthy children. Regardless of gender effects, healthy children and pediatric patients preferred blue and green the most and white the least.

In the present study, six easily identifiable colors were included- Orange, Pink, Blue, Green, Yellow, White. Pink and Orange was the most

preferred and white was the least preferred among children indicating the independent choices of children regardless of any association of emotion or anxiety to the colors shown. Similarly, **Annamary K**<sup>13</sup> stated that colors like blue and pink, have been found to instill a positive dental attitude in children while colors like black and red could develop a negative outlook in their mind

There is lack in understanding as to how children change their color preferences regardless of the health situation or environment.

The 1990s ushered in technologic advances affecting the forefront of dentistry. This technology was the harbinger of a change in dentistry from a need-driven to a want-driven profession. Improvements have been made to dental chairs throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries to encourage patient and operator's comfort.<sup>14</sup> Dental chair can greatly impact children's psychology as well as posture and positioning of the dentist.

In the present study, simple dental chair was chosen over by the majority of the children. The reasons for their preference might be that they might not be aware of the different types of dental chair and their functionality particularly talking of the pediatric dental chair which is nowadays designed in a very child friendly way to attract the children in the dental environment and make them feel comfortable. Thus, it can be stated that the reason for the preference of the fancy chair by the children was just the customized look it had.

Professional appearance of a pediatrician is an important element affecting the perception of competence of the doctor among patients and their parents/guardians, thus influencing their compliance.<sup>15</sup> In order to make positive changes and adjustments that would make a pediatric dentist look more acceptable for the child, importance must be given to what form of attire will be more preferential.

Psychologists/sociologists highlight the importance of appearance and its effect upon first impressions and interpersonal relationships.<sup>16</sup>

In the current study, 50% of children

preferred their dentist to wear white coat. The reasons behind their preference towards white coat includes, color, symbol of healing, looks professional, increase their confidence level and interestingly, they believe and trust that doctors or dentist will wear white coat. This result is in agreement with the study done by **Alsarheed et al.**<sup>17</sup> who had stated that white coat was considered as a symbol of healing. The reasons for their dislike include, fear of bodily injury, contamination of white coat, stains, or dirt's will be easily seen. The 39% and 11% of children who preferred colored scrubs and printed scrubs listed reasons for their preference such as, child friendly attire, bright color, attractive, looks simple and not threatening. In various other studies<sup>18,19,20</sup>, informal attire has been the least favourite choice by patients. Apart from this, **McCarthy et al.**<sup>21</sup> found that children are not afraid of a doctor in a white uniform. **Ravikumar D**<sup>22</sup> stated that based on children's age, it has observed that children in young age group prefer a regular outfit, middle aged preferred white coat and older children prefer a surgical coat.

## CONCLUSION

Children's preferences can help in creating a child friendly clinic which develops friendly relationship between the child and pediatric dentist and enhances a positive attitude towards dentistry from childhood. A colorful wall with cartoon background, filled with toys, in a scented atmosphere, with rhymes played in the background and the presence of parents, are the most preferred dental clinic atmosphere for children aged 6–10 years. Findings from studies in specific contexts should be interpreted carefully, as the application of these findings is not prescriptive for all situations. Since this was an observational study, further research considerations using cross-cultural studies with larger samples may provide valuable information for pediatric dentists in designing Paediatric Dental Clinic.

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