

# Impact of colour in the emotions of children in a Pediatric dental clinic

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## ABSTRACT

**Topic: Impact of colour in the emotions of children in a Pediatric dental clinic**

**Aim: To estimate the bonding / interaction between colour and emotions of children in Pediatric dental clinic**

**Background:** Color is the visual perceptual property corresponding in humans. Strong bright colours have the effect of shocking the children's inner vibrations, which make the child unsettled and restless. So for young children soft tones of yellows, creams, peaches, pink, blue radiate warmth and peace and are emotionally soothing and comforting. There are many factors that cause dental anxiety in children. Most important among them is Color. The child's perception of dental environment is significant factor causing dental anxiety. If the Color is childliking, then it is possible that those colours may add to the comfort of child as well as physician for reducing dental anxiety.

**Materials and method:** A cross sectional study was planned to know the relation between Color and emotions in children . A total of 100 children participated in this study from the age group of 6 - 12 years.

**Results:** The results obtained from this is soft tones like yellow , pink , blue are preferred for positive and black , red is for negative emotions.

**Keywords:** Colour , emotions, Happiness, angry, sad.

## INTRODUCTION:

Color is the visual perceptual property corresponding in humans to the categories called red, blue, yellow, etc. Color derives from the spectrum of light interacting in the eye with the spectral sensitivities of the light receptors. Colour is an inseparable part of our everyday lives and its presence is evident in everything that we perceive . It is widely recognised that colours have also a strong impact on our emotions and feelings [1]. Years of research has proven that each color has associations with certain feelings and can create a mood [2]. Colors can make us feel happy or sad. They can make us feel hungry or relaxed. it's important to understand the psychological effects colors might have on an average person . There are two types of colours , warm and soft colors . Warm colors often evoke feelings of happiness, optimism and energy. Cool colors are usually calming and soothing but can also express sadness. The relationship between color and emotion is closely tied to color preferences[3]. In particular, color preferences are associated with whether a color elicits positive or negative feelings.

In an investigation of children's emotional associations with colors, Boyatzis and Varghese (1994) found that light colors (e.g., yellow, blue) are associated with positive emotions (e.g., happy, strong) and dark colors (e.g., black, gray) with negative emotions (e.g., sad, angry).

Depending on the situation they are used in, colors can give rise to positive or negative effects. Each color used by itself in a room with the expectation of creating a positive effect, carries the possibility of causing a negative reaction instead. Being subject to excessive stimuli can cause changes in breathing pattern, pulse, blood pressure and muscle tension. On the other hand, too little stimuli can lead to anxiousness, sleeplessness, excessive emotional reaction, loss of concentration and nervousness[4]. To give an example, a completely white environment leads to lack of stimulus and this, contrary to expectations, does not cause a balanced or neutral effect.

Red attracts all the attention and distorts the effect of other colors. The lens of the eye must adjust to be able to focus on red. The natural focal point is behind the retina. The dynamism of red is reduced as it turns into pink with the addition of white and gains softer and calmer undertones. For this reason, the use of red on the walls of children's rooms must be avoided. Due to its strong and warm effect red could be used as an accent in children's rooms fashioned in beige, blue and brown[5]. Using intense red in the

room of your child who uses it to study, play with his/her friends and sleep in, could have a negative effect on your child. Children could feel themselves tense and aggressive in rooms painted in intense red[6].

Yellow is the most joyful color on the color scale. It represents wisdom and kindness. It radiates warmth, joy, enthusiasm, fun and inspiration. Its effect is not as severe as red's. Yellow is relatively a lighter color and as such it has a refreshing effect. Symbolically yellow represents mental and spiritual enlightenment daylight and communication. Due to the fact that it also affects memory, motivation and attention it is suitable for use in children's rooms. However, its intense use may cause tenseness and anger. Studies conducted reveal that intense use of yellow could cause babies to cry more[7]. Calmer and more peaceful environments for children could be created by using yellow in combination with blue and green in babies' rooms.

Blue, in all respects is the total opposite of red. While blue is transparent and wet in appearance red is opaque and dry. Psychologically the cold and comforting nature of blue is the polar opposite of the warmth and excitement of red. In contrast to red, blue reduces body temperature, blood pressure and pulse rate. Blue evokes feelings of contentment, spaciousness and comfort due to being the color of the sky and ocean as well[8]. As the shade of blue approaches black with the addition of black it may become depressive and melancholic. Blue is a color that is widely recommended for use in children's rooms. Especially in nurseries, the use of blue helps the baby's easy and peaceful transition into sleep[9]. It can also be comfortably used with active and vibrant children due to its calming effect. As is the case with all other colors, you can accessorize your room in red and yellow when you choose to paint your walls in blue[10].

Green, psychologically represents health, and it has a calming effect on the nervous system. Green is reminiscent of peace, calm and quiet. Due to the fact that the lens of the eye focuses on green on the retina, green is the most relaxing color. The yellow in green lends an elegant character to this color while the blue renders it warm. Light green reduces pressure. Symbolically green represents the power of nature and life and as such it is considered to be the most natural, relaxing, calming and balanced color. Red signals "stop" there is danger, while green signals "safe crossing" and thus reduces the tension in the body. Green can be used with ease in nurseries, and in children's and teenagers' rooms. The use of color green in nurseries will ensure a peaceful and comfortable transition into sleep for the baby. When green is used with more undertones of yellow, it clarifies the mind, and therefore can be used in teenagers' rooms to foster success in school. The serenity of blue and the mental clarity achieved with yellow will have a good impact on them[11].

Orange is softer and simpler in comparison to red. It represents happiness, sociability, an extrovert nature as well as joy with the excitement of red and the energy of yellow. It is ideal in overcoming tiredness. It radiates warmth, increases appetite and helps you wake up early in the mornings. Its energy can be lower when saturation is low. It is ideal for use in the rooms of introverted children with problems in socializing[12]. Orange physically represents self confidence, independence and to a certain extent competition. If there is a separate recreation room in your house and your child spends time there with his/her friends you can easily use shades of orange in this room[13].

Purple is a mixture of red and blue that are physically and psychologically opposites of each other. Its different shades are reminiscent of fragility, elegance and wealth; however, sometimes some shades could prove to be disturbing [13]. Purple stimulates the part of the brain related to creativity. At the same time it has a calming effect. Violet is a lighter shade of purple and is included in the spectrum. Purple on the other hand is a complex color and in terms of color type there are big differences between them. Girls like pink and purple very much. Purple is a color appropriate for children. Purple can be easily used in the rooms of preschool children that are usually involved in creative activities as well as teenage girls' rooms for purposes of contributing to their academic skills [14]. Due to the fact that it also contributes to physical and spiritual serenity, purple and its different shades can be used in the rooms of hyperactive and highly animated children[15].

Pink, which is a mixture of red and white, physically affects us in a positive way. It is relaxing and warm. It is the only lighter shade of red with its own name. Other lighter colors are just light green or light blue. Pink is also psychologically a strong color. It represents the continuity of living beings as well as femininity. It has a deeply soothing effect. Too much pink could be tiring and oppressive. It is not suitable to use too much pink in the rooms of shy and introverted children as this is not an energetic color. It can lead to further withdrawal of this type of children. Pink with lesser undertones of red can be easily used in the rooms of active and energetic children. It evokes feelings of warmth and peace[16].

Brown consists of red, yellow and black. It is almost as serious as black; however, it could be said to be softer and warmer. It has this qualities thanks to the red and yellow in its content [17]. It is a color associated with nature and the universe. It is intense, reliable, warm and positive. In contrast to black, it is considered reliable and supportive by many people. It can be specifically used in teenagers' rooms. Due to the fact that it is a down-to-earth color influenced by the energy of red and yellow and the seriousness of black, it could prove helpful in developing feelings of responsibility and protection in teenagers. It is a color associated with will and possession[18]. Brown as a color has positive influence on the family and friendships of teenagers[19]. At the same time it gives peace and serenity. It calms teenagers high spirits and helps them to remain down to earth in the academic field. To achieve success in education simultaneously with relaxation you can choose to color a part of your teenager's room in a shade that is yellow intense. Moreover, silky beige and straw colors can be used together in nurseries. This color gives rise to feelings of confidence and is relaxing[20].

## MATERIALS AND METHODS:

A cross sectional study was planned to know the relation between Color and emotions in children . A total of 100 children participated in this study from the age group of 6 - 12 years. A specially prepared pro forma was used to record personal information, Corah's dental anxiety scale and six cartoon line-drawing of faces. Among those six , three contributed to positive emotions and three faces contributed to negative emotions. Three positive emotions ( very happy , happy, relaxed ) . Three negative emotions ( worried, slightly anxious , very anxious). The corah's dental anxiety scale consisted of 4 questions to know the emotions of children especially when they are at a dental clinic to detect their mood. And they were asked to Color the 6 emotions with different Colors. The children were given about 7 Color pencils including the Colors blue, pink, yellow, black, red, green and orange, . The children were asked to Color the 6 faces with their preferred Colors to know their emotions. The children were told that if they were happy which Color would they prefer and if they were sad which Color would they prefer . The children preferred their own Colors for three positive emotions and three negative emotions. And the results were calculated statistically.

## DISCUSSION :

colour is a salient feature in a child's life. A child's environment including his/her Clothes , toys, and home accessories convey many psychological messages through colors.[3].Goldstein claimed that specific color elicits specific emotional responses[4].In this study it was decided to include eight easily identifiable color groups: Blue, green, pink, yellow, red, black, purple and orange. Six emotions as defined by Ekman and Friesen include happiness, surprise, anger, sadness, aversion, and fear. This research comprises two of these emotions happiness and fear. 3 faces for happiness and three faces for fear or anxiety[5]. Specific colors do usually elicit particular emotions, but the particular emotions involved are in no way the same for each individual[4] .

## RESULT :

The corah' s dental anxiety scale for 100 students were noted. According to the corah' dental anxiety scale 68% children were anxious and 32% children were non anxious. The dental anxiety for children was more statistically. And according to the smiles given to them , for positive emotion 34% of children chose yellow, 17% children chose blue, 7% children chose green , 18 % of children chose pink , 12% of children chose black , 5% of children chose orange and 7% of children chose red . For negative emotion 54% chose black , 22% chose red, 14% chose blue 5% chose green , 3 % chose green , 2 % chose pink . The color preference for negative and positive emotions was compared based on their anxiety level. Both anxious and non - anxious children yellow followed by pink for positive emotions. They preferred black followed by red for negative emotions.

## Conclusion

The conclusion from this is soft tones like yellow , pink , blue are preferred for positive and black , red is for negative emotions.

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