

How Do Children View Other Children Who Have Visible Enamel Defects Around Metropolitan City – A Crosssectional Study

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ABSTRACT: Introduction: Enamel defects may affect an individual's dento-facial appearance, impacting on their psycho-social status and on how other people view them. Having an attractive smile in particular has an impact on a range of psychosocial aspects and is important even to children and youth, not just adults. Materials and method: Inclusion criteria: Age group 11-12 years as group 1 and 14-16 years as group 2 in order to measure their social judgments of their facial and dental appearance. Exclusion criteria: Mentally disabled children: Two Standardized full face color photographs were taken of an 11-12 years male and 14-16 years female who had excellent occlusion and good oral health. Apart from their standardized features, anterior part of teeth is being digitally altered to appear whitened, decayed is done graphics using digitally editing software programme. Scores is being rated with 4 point likert scale response format to denote the positive and negative feedback of children on their social judgements towards other children dental appearance. Scores are rated as strongly agree =4, agree =3, disagree=2, strongly disagree=1. Result : From this study we have found that 11-12 years old children attribute negative personality characteristics to other children with visible enamel defects Conclusion: Negative responses of those around young people with poor dental appearance may extremely affect the way they act, even influencing future long term development and life chances.

Key words : Visible enamel defects, psychological impacts, negative attributes, positive attributes, aesthetics.

INTRODUCTION

Physical attractiveness affects human life in various aspects and it leads to some extent such as face has been most stronger indicator of overall attractiveness than the body[1]. Attractiveness is judged on the basis of social standards. In addition to this, the literature also points to the fact that people have a natural ability to distinguish between the beautiful and the ugly. Numerous studies performed by Professor Langlois et al. [23] show that even children pay greater attention to people with a more attractive face than people of less attractive appearance. The connection between facial aesthetics, quality of life, and motivational factors are essential for treating patient with enamel defects Psychological impact of facial aesthetics will play significant role in the quality of life. Thus, smile aesthetics plays a key role in overall aesthetics[2]. Irregularities in the position of teeth and jaws have a significant impact on the attractiveness and aesthetics of the smile and on quality of life. It can disrupt social interaction, interpersonal relationships and mental wellbeing and may lead to a feeling of inferiority[3]. Dentofacial appearance is increasing in daily life and concerns about the outward appearance also affect children[4]. People who have well positioned incisors are considered more attractive, intelligent and adjusted than others who have dental malocclusion and/or anomalies[5]. Self perception is a part of children psychological characteristics and it is essential to be aware of how much they like their smile and how happy they are with it[6]. We live in a society where our facial appearances such as dentofacial aesthetics are judged by others[7,8]. Indeed a dental appearance that deviates from acceptable norms may even negatively affect an individual's employment prospects[9]. Some literature have shown the interconnection between dentofacial appearance and social judgements in which it gives both positive and negative ratings based on visualising the dentofacial appearance of an individuals. Studies like Shaw et al showed 42 children

and 42 adults photographs of a boy's and girl's face with different dental appearances such as normal incisors, prominent incisors, crowded incisors, a missing lateral incisor or unilateral cleft lip[10]. It was found that children with normal appearance are rated positively in terms of prudence as a friend, intelligence and behaviour. The same method was followed to determine the presence of dentofacial anomaly would unfavourably influence social and educational judgements and it denoted negative ratings such as dull, lazy and does not caring about appearance[11]. On basis of social judgements will reveal children's attitude towards other children's aesthetic appearances[12]. There is a general consensus that individuals with healthy dentition are perceived as more socially competent, intellectually competent and better psychologically adjusted than with facial deformities[13]. Most parents will care for their children's appearance and it's very important to motivate them to seek dentist help. Although studies have investigated the effects of dentofacial appearance on psychological health[14]. Oral malformations will expose an individual, particularly school age to an embarrassing situation. Developmental defects of enamel are common due to various aetiologies and presentations[4]. Although diffuse enamel opacities are not readily notable by public, demarcated with white and brown, yellow opacities in association with molar incisor hypomineralisation may be visible to others[15]. Like wide varieties of inherited and acquired conditions may affect teeth to look different from accepted norms which includes enamel defects, abnormalities of morphology and dental trauma[16]. In recent years dental behavioural assessment has begun to provide a rich resource for addressing questions related to the effects of dental-facial aesthetics. Psychological studies have been done by Elovitz and Salvia demonstrated with facial photographs which depicts more attractive children rated as positive attributes[14]. From this study we would be able to know

judging ability of children view other children with or without their enamel defects. It also influence importance of dental aesthetics to play role in social and educational judgements.

MATERIALS AND METHODS:

The present study is a cross sectional self completed questionnaire. Inclusion Criteria: Participants of the present study of children with age group 11-12 years as group 1 and 14-16 years as group 2 in order to measure their social judgments of their facial and dental appearance. Exclusion Criteria: Mentally disabled children

Pictorial Representation :

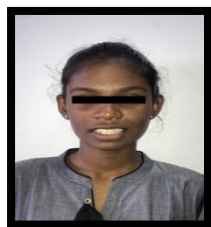
Two Standardized full face color photographs were taken of an 11-12 years male and 14-16 years female who had excellent occlusion and good oral health. Apart from their standardized features , anterior part of teeth is being digitally altered to appear whitened ,decayed is done graphics using digitally editing software programme.



A)



B)



C)



D)

FIG : A and B represents photographic image without visible enamel defect

C and D represents photographic images with visible enamel defect

Forming of questionnaire :

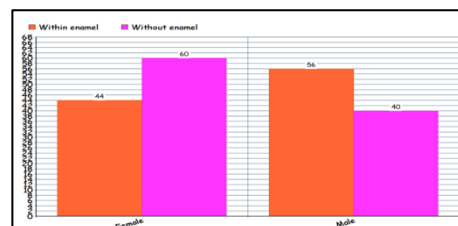
Few questionnaire were formed based on the photographs to rate the total attribute score for the photographic images with presence or absence of enamel defect. Questionnaire were

1. Is the child active?
2. Is the child confident?
3. Is the child rude?
4. Is the child lazy?
5. Is the child kind?
6. Is the child helpful?
7. Do you feel child does not care about their appearance ?
8. Do you think the child is naughty?

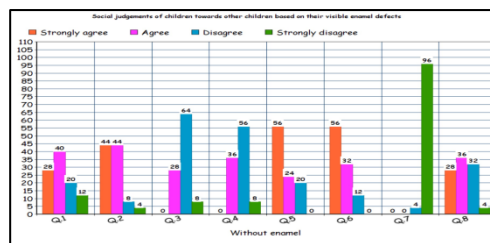
Rating Scale:

Scores is being rated with 4 point likert scale response format to denote the positive and negative feedback of children on their social judgements towards other children dental appearance. Scores are rated as strongly agree =4, agree =3, disagree=2, strongly disagree=1. Total attribute score contains both positive and negative attribute in which active , confident ,kind and helpful are included in positive attribute category whereas rude, lazy, naughty and does not care of their appearance are included in negative attributes.

RESULT:

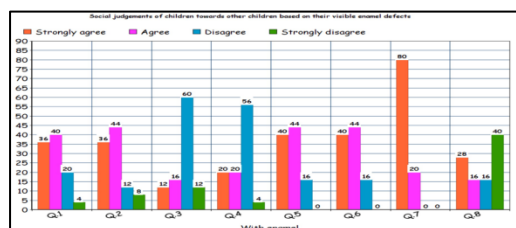


This chart represents the gender wise rating likert scale based on visualizing the photographic images with and without visible enamel defect. Mostly females have responded rating for without visible enamel defects. Males have responded to rating for photographic image with visible enamel defect.

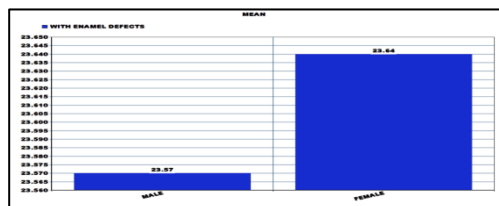


This chart represents Questionnaire based rating scale by viewing the photographic images without enamel defect, in which 68% for agree that child is active and 32% disagree for the child looks inactive, 88% were agree that child is confident and remains 12% found that child had less confident, 72% found that child is not rude whereas 28% were agreed for child is rude, 64% were agreed for child is lazy and 36% disagreed for child is not lazy. 80% were agreed for child looks kind and remaining 20% disagreed for child is kind. 88% agreed for child looks helpful whereas remaining 12% felt that child is not helpful. 100% were disagreed for the child does not care about their

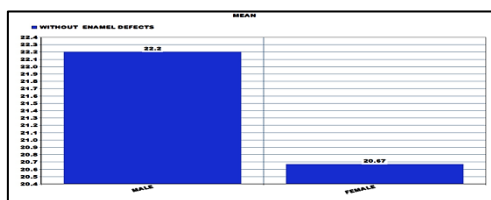
appearance and it looks fine. 64% rated agree for the child looks naughty and 36% disagree for the child looks naughty.



This chart represents questionnaire based rating scale for the photographic images with visible enamel defects in which 76% rated as agreed for child looks active with enamel defects and remaining 24% rated as disagreed, 80% were agreed that child seems to be confident even with enamel defects whereas 20% were disagreed to it. 72% rated as disagree for the child does not looks rude with enamel defects and remaining 28% agrees that child looks rude with visible enamel defects. 40% agreed that child looks lazy with visible enamel defects and 60% disagreed that child does not looks lazy. 84% were agreed that child looks kind and helpful whereas 16% disagrees that child is not kind and helpful. 100% rated as strongly agreed for the child does not care for their appearance. 44% agreed that child looks naughty and remaining 56% disagreed for the child does not looks naughty.



This chart represents mean of male and female visualizing the photographic images with enamel defect in which female has more positive feedback than male.



This chart represents mean of male and female visualizing the photographic images without enamel defects in which male had more positive perceptions than female

BTAS FOR WITH ENAMEL DEFECTS

Total attribute score with enamel defects shows that male is more significantly negative than female

Tab 2: TAS for without enamel defects.

	Gender	N	Mean	Std. Deviation	Std. Error Mean	t'	p value
Total attribute score	Male	14	23.57	2.209	0.590	0.056	0.956
	Female	14	23.64	3.529	1.064		

Total attribute score without enamel defects has no significance between male and female judgements shown

	Gender	N	Mean	Std. Deviation	Std. Error Mean	t'	p value
Total attribute score	Male	10	22.20	2.150	0.680	1.304	0.205
	Female	15	20.67	3.266	0.843		

towards children without enamel defects.

DISCUSSION : The aim of the study is to determine whether children with visible enamel defects are viewed as negatively judged by other children. On comparing results with previous studies there is a significant difference in the

social judgements made by the participants in this study based on the with and without enamel defects. On first assessment by visualizing the photographic image with and without visible enamel defects have shown negative feedback made on their dental appearance[17]. Similar studies done by Rumsey and Harcourt, has also highlighted the negative public perceptions made on their facial appearance[18]. The present study was found to be significantly negative in their social judgements than were their female perceptions. Children who are regarded as more attractive are more accepted by their peers and they are judged as more intelligent, interesting, friendly and much more social. People with any enamel defects or any abnormalities in their position of teeth and in their facial appearance will be discriminate from the various environments such as teasing and harassment by their fellow mates[19]. In accordance with similar study done by Helen and Chris barker et al., has also found negative judgements made by children of 11- 12 years who had perceive based on their poor dental appearance whereas adolescents have acquired positive result in order to facial esthetics[13]. Oral features seem to be particularly important aspects of the physiognomic bases for social judgments. For instance, thin lips tend to make people look dominant, as well as sociable and energetic; missing or prominent incisors can promote the impression of aggressiveness; facial scars make both men and women appear less honest; and those with prognathic profiles or large jaws are seen as more ambitious, determined, and dominant. Consistent reactions to people with cleft lip and malocclusion have also been reported[14]. Treatment of dental malocclusion by orthodontic treatment and for skeletal malocclusion by orthognathic surgery has been shown to have positive impact on the individual's self-

confidence and social life[24]. In our study female had made positive perceptions on viewing the photographic image without visible enamel defects whereas males had negative perception based on the photographic image with visible enamel defects. Usage of photographs in the present study could be considered a constraint they offer an artificial and incomplete representation of a living person[17]. In real life, people make comments about others not only on facial appearance, but can also be on their facial expressions and voice. Previous studies conducted by Rhodes and colleagues compared the use of 2D photographs with other methods like video clips in ratings about men's attractiveness. Result obtained was no differences by using video clip versus static images[20]. In our present study, independent t test shows no significance in total attribute score of both with and without enamel defect. On comparing results with gender wise mean of TAS, female has more significance than male counterparts ($p \leq 0.03$). In relation to social perception, Shaw et al evaluated the smile perceptions of 840 children aged between 11-13 years with 100-mm visual analog scale. The author highlighted a significant preference for aligned teeth smile as compared with altered smiles regarding perceived attractiveness ($p < 0.1$)[4]. On calculating, means of total attribute score according to gender variables of the rater. On visualizing the gender of the photographic subjects was disintegrated with previous analysis of study has shown the mean TAS was same for gender wise photographic subjects, analysis was also conducted individually based on the presence or absence of an enamel defects have shown significant effect on TAS. Here female raters gave a significantly higher than their male counterparts for photographic subjects both with and without enamel defect. The finding is consistent with two previous studies conducted by the same researcher crew, where female adolescents were more positive than males in ascribing the value judgements about children with incisor trauma or orthodontic appliances[17]. Adolescents are the self monitoring relates to how an individual modifies their behavior in different social settings[21]. Raters age did not appear to influence views of their peers suggesting that 11-12 year old make similar social judgements in relation to enamel defects, as do 14-15 years olds. In accordance to its findings by Henson et al., whose study found that age was not a significant predictor of how children viewed other children with ideal and non-ideal smiles[22]. Researcher had also formulated that children of lower socio economic status and poor oral hygiene had lead to more social perceptions by others due to their poor dental appearance. In retrospect, it would have been interesting to see whether ethnicity rather than socio economic status affected children's views. School B had a large and diverse ethnic minority population, including Somalis, some of whom are known to have severe dental fluorosis as they were born in east Africa. On reviewing the literature, ethnicity does not appear to have an effect on dental appearance related judgements. Clinicians should appreciate that children with poor dental esthetics may incur negative social judgements from their peers. It would appear that children are very aware of their own dental aesthetics irrespective of gender or social background[17]. The present study is based on the study done by Craig et al in western countries in order to find significant result which

is similar with children in metropolitan city. We have found that males were significantly more negative in their social judgements than female peers. It was also found that people with discoloured teeth were given lower ratings for a variety of personality traits which includes social competence, satisfaction with relationships and psychological adjustment.

CONCLUSION:

From this study we have found that 11-12 years old children attribute negative personality characteristics to other children with visible enamel defects. Negative responses of those around young people with poor dental appearance may extremely affect the way they act, even influencing future long term development and life chances. According to our results, the smile appears to be important among overall esthetics for adolescents as well as children below 10 years. The psychological impact of visible enamel defects as well as occlusal alterations could represent a significant improvement in patient care. Furthermore treating the visible enamel defects or developmental defect should be corrected in order to prevent bullying or teasing from others and improving the quality of social interactions preserving healthy psychological development[4]. Facial aesthetics is the most consistent and compelling determinant of social perceptions and attributions; misconceptions about the causes and effects of impairments persist among public; dental appearances will primarily induce negative evaluation of facial appearance. We must also create awareness of clinical and emotional needs of young people with enamel defects should be rectified with simple non-invasive procedures. By treating enamel opacities or other defects, we can reduce negative social interactions and raise their positive vibes with them.

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