

# Self-Evaluated Dental Appearance Satisfaction among Young Adults

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## Abstract

**Background:** Dental appearance satisfaction is important among young adults because judgment concerning the personal characteristics of individuals is influenced by their dental appearance in the absence of other information. **Aim:** The aim of the study was to determine the self-evaluated dental appearance satisfaction among young adults. **Subjects and Methods:** This cross-sectional survey of financial industry prone undergraduates of University of Benin was conducted between July and September, 2010. The self-administered questionnaire which assessed information on demographic characteristics, smoking habit, alcohol use, previous dental visit, dental appearance satisfaction, tooth shape, size, arrangement and strength was the tool of data collection. The data was subjected to descriptive, Chi-square and regression statistics using statistical package for the social sciences version 17.0 (Chicago, IL, USA). ( $P < 0.05$ ) was considered to be significant. **Results:** A total of 399 undergraduates which are made up of 179 (44.9%) males and 220 (55.1%) females with mean age of 24.66 (4.20) years participated in this study. Self-evaluated dental appearance satisfaction was expressed by 79.4% (317/399) of the participants. The significant predictors of self-evaluated dental appearance satisfaction were skin color ( $P = 0.03$ , odds ratio [OR] =2.57, 95% confidence interval [CI] =1.09-6.09) and perceived tooth strength ( $P = 0.02$ , OR = 5.83, 95% CI = 1.40-24.28) among males and alcohol consumption ( $P = 0.04$ , OR = 0.45, 95% CI = 0.21-0.95) and perceived size of tooth ( $P = 0.02$ , OR = 2.37, 95% CI = 1.15-4.89) among females. The significant predictors of self-evaluated dental appearance satisfaction among the participants were ethnicity ( $P = 0.04$ , OR = 0.55, 95% CI = 0.32-0.96), skin color ( $P = 0.04$ , OR = 1.74, 95% CI = 1.03-2.93), perceived tooth size ( $P = 0.03$ , OR = 1.82, 95% CI = 1.07-3.09) and strength ( $P = 0.01$ , OR = 3.42, 95% CI = 1.58-7.41). **Conclusion:** Ethnicity, tooth arrangement, size and strength need to be given detailed consideration in tooth replacement as they emerged as the significant predictors of self-evaluated dental appearance satisfaction among young adults.

**Keywords:** Dental appearance satisfaction, Self-evaluation, Young adults

## Introduction

Dental appearance is a substantial contributor of the facial and physical appearance of an individual.<sup>[1]</sup> It affects the judgments of facial attractiveness regardless of gender or background facial attractiveness and substantially influences human physical attraction.<sup>[2]</sup> Self-perception of the dentofacial

region has been documented, as a significant predictor for the global, competence, affect, academic and physical domains of self-concept.<sup>[3]</sup>

Dental appearance constitutes an important factor in social interaction, social selection, career aspiration and achievement of individuals.<sup>[4,5]</sup> It has been reported that individuals with less dental disease are judged to be more socially competent, show greater intellectual achievement and have better psychologic adjustment.<sup>[6]</sup> This is further buttressed by the fact that adults with visible dental problems are more reluctant to seek employment because of their appearance or impaired speech. Support for the social and psychological implications of dental appearance were further learnt by Somani *et al.*<sup>[7]</sup> report of strong correlation of poor dental condition with perceived poor

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10.4103/2141-9248.139339

social performance and intellectual ability and Shaw<sup>[8]</sup> report which found that children with normal dental appearance are judged to be better looking, more desirable as friends, more intelligent and less likely to behave aggressively.

Perception of dental appearance which is affected by individual's perception, culture and environment, is an important determinant of dental treatment seeking behavior among individuals.<sup>[9-11]</sup> It therefore means that the maintenance and improvement of satisfaction with dental appearance is one of the fundamentals of dental care.<sup>[12]</sup> The satisfaction with dental appearance is influenced by gingival architecture, tooth color, size, shape, strength and arrangements.<sup>[13-15]</sup> However, the overall dental attractiveness is not dependent on any particular feature of the dentition.<sup>[16]</sup> Dental appearance satisfaction is important among young adults because judgment concerning the personal characteristics of individuals is influenced by their dental appearance in the absence of other information.<sup>[6]</sup> The selection of undergraduate for this study is based on the fact that education has been correlated with dental aesthetic satisfaction.<sup>[17]</sup> The objective of the study was to determine the self-evaluated dental appearance satisfaction among young adults.

## Subjects and Methods

This cross-sectional survey of financial industry prone undergraduates (Accounting, Banking and Finance, Business Administration, Economics and Statistics) of University of Benin was conducted between July and September, 2010. The undergraduates with history of orthodontic treatment and dental trauma were excluded as these factors have been shown to influence dental appearance satisfaction. The conduct of this research was consistent with the Declaration of Helsinki on Ethical Principles for Research Involving Human Subjects. Informed consent was obtained from all the research participants. Participation in this study was purely voluntary and no incentive was offered. The tool of data collection was a self-developed validated 13-item self-administered questionnaire, which was anonymous without identifiers. The questionnaire were distributed just before a class session and collected immediately after the lesson. This self-administered questionnaire assessed information on demographic characteristics (age, gender, skin color, ethnic group) smoking habit, alcohol use, dental visit, dental appearance satisfaction, tooth color, shape, size, arrangement and strength. Smoking habit and alcohol use were assessed with a yes or no response and no further query on quantity was done. Dental appearance satisfaction was assessed using a 4-point scale as very satisfied, satisfied, dissatisfied, or very dissatisfied but was collapsed to satisfied and dissatisfied categories for the purpose of analysis. Tooth shape which had oval, square round, peg-shaped and can't say was also grouped into two; descriptor and can't say for the purpose of analysis. Tooth color, size and strength were grouped as normal and abnormal while tooth arrangement was grouped as well aligned and not aligned. The age of the participants were

categorized into two as  $\leq 26$  and  $> 26$  years. The ethnicity of the participants was grouped into two as the Edos and the non Edos to facilitate the assessment of the effect of ethnicity on the dental appearance satisfaction. The Edos were indigenes of Edo States in which the study was conducted and constituting tribes were *Bini, Etskato, Esan, Igalla, Igbanke, Onwa, Ora, Akoko-edo*. Every other tribe in Nigeria other than Edo state indigenous tribes constituted the non Edos. The data was subjected to frequencies, percentages, cross-tabulations, Chi-square statistics, logistic regression using statistical package for the social sciences version 17.0 (Chicago, IL, USA). In the logistic regression, dental appearance satisfaction was the dependent variable while the demographic and tooth characteristics were the independent variables.  $P < 0.05$  was considered to be significant.

## Results

A total of 399 undergraduates aged between 15 and 37 years with a mean age of 24.66 (4.20) years participated in this study. Males constituted 44.9% (179/399) of the participants while 55.1% (220/399) were females [Table 1]. Self-evaluated dental appearance satisfaction was expressed by 79.4% (317/399) of the participants. Older participants, males, light skinned participants, smokers and non-alcohol consumer expressed more satisfaction with their dental appearance than their counterparts and these were not statistically significant. Perceived tooth size and dental health were significantly associated with self-evaluated dental appearance satisfaction [Table 2].

The significant predictors of self-evaluated dental appearance satisfaction were skin color ( $P = 0.03$ , odds ratio [OR] = 2.57, 95% Confidence interval [CI] = 1.09-6.09) and perceived tooth strength ( $P = 0.02$ , OR = 5.83, 95% CI = 1.40-24.28) for male participants and alcohol consumption ( $P = 0.04$ , OR = 0.45, 95% CI = 0.21-0.95) and perceived size of tooth ( $P = 0.02$ , OR = 2.37, 95% CI = 1.15-4.89) for female participants [Table 2]. The significant predictors of self-evaluated dental appearance satisfaction among the participants were satisfaction were ethnicity ( $P = 0.04$ , OR = 0.55, 95% CI = 0.32-0.96), skin color ( $P = 0.04$ , OR = 1.74, 95% CI = 1.03-2.93), perceived tooth size ( $P = 0.03$ , OR = 1.82, 95% CI = 1.07-3.09) and dental health ( $P = 0.01$ , OR = 3.42, 95% CI = 1.58-7.41) [Table 3].

## Discussion

Self-evaluated dental appearance is increasingly receiving attention because of its implication in dental care and patient-oriented healthcare delivery-favored trend.<sup>[18]</sup> In this study, more than three-quarters (79.4%) of the participants expressed satisfaction with their dental appearance. This was lower than 89.0% reported among 18-19 years old individuals in Finland who expressed varied degrees of satisfaction with their dental appearance<sup>[19]</sup> and comparable to Ajayi<sup>[20]</sup> finding among 12 years old in Benin City, Nigeria (76.9%),

**Table 1: Demographic and perceived tooth characteristics among the participants**

Characteristics	Frequency (n)	Percentage
Age (years)		
≤26	264	66.2
>26	135	33.8
Gender		
Male	179	44.9
Female	220	55.1
Ethnicity		
Edo	234	58.6
Non-Edo	165	41.4
Skin colour		
Light skin	218	54.6
Dark skin	181	45.4
Smoking		
Yes	16	4.0
No	383	96.0
Alcohol		
Yes	244	61.2
No	155	38.8
Previous dental visit		
Yes	112	28.1
No	287	71.9
Tooth size		
Normal	256	64.2
Not normal	143	35.8
Tooth shape		
Descriptor	138	34.6
Can't say	261	65.4
Tooth color		
Normal	114	28.6
Abnormal	285	71.4
Tooth arrangement		
Well aligned	240	60.2
Not aligned	159	39.8
Tooth strength		
Strong	366	91.7
Not strong	33	8.3
Total	399	100.0

Meng *et al.*<sup>[17]</sup> finding among diverse sample of dentate adults in Florida (76.0%), Alkhatib *et al.*<sup>[21]</sup> finding among adults in United Kingdom (75.0%) and Hamamci *et al.*<sup>[22]</sup> finding among Turkish university students (71.1%). However this study finding was higher than the findings among dental patients in Israel (62.7%),<sup>[23]</sup> Turkey (57.3%)<sup>[10]</sup> and Malaysia (47.2%).<sup>[24]</sup> The higher level of dental appearance satisfaction recorded in this study reflected the fact that patients recruited from dental clinics may be suffering from one or more conditions, which may have adversely influenced their dental appearance satisfaction.<sup>[21,25,26]</sup>

Ethnicity emerged as the significant predictors of self-evaluated dental appearance satisfaction among the participants. The non-Edo indigenes are 0.55 times more likely to express satisfaction with their dental appearance than Edo indigenes.

**Table 2: Relating demographic and perceived tooth characteristics with dental appearance satisfaction among the participants**

Characteristics	Dental appearance n (%)		$\chi^2$	Pvalue
	Satisfied	Non-satisfied		
Age (years)				
<26	206 (78.0)	58 (22.0)	0.96	0.33
>26	111 (82.2)	24 (17.8)		
Gender				
Male	145 (81.0)	34 (19.0)	0.48	0.49
Female	172 (78.2)	48 (21.8)		
Ethnicity				
Edo	179 (76.5)	55 (23.5)	3.02	0.08
Non-Edo	138 (83.6)	27 (16.4)		
Skin color				
Light skin	181 (83.0)	37 (17.0)	3.77	0.05
Dark skin	136 (75.1)	45 (24.9)		
Smoking				
Yes	13 (81.2)	3 (18.8)	0.03	0.86
No	304 (79.4)	79 (20.6)		
Alcohol				
Yes	187 (76.6)	57 (23.4)	3.04	0.08
No	130 (83.9)	25 (16.1)		
Previous dental visit				
Yes	89 (79.5)	23 (20.5)	0.01	1.00
No	228 (79.4)	59 (20.6)		
Tooth size				
Normal	214 (83.6)	42 (16.4)	7.52	0.01*
Not normal	103 (72.0)	40 (28.0)		
Tooth shape				
Descriptor	114 (82.6)	24 (17.4)	1.29	0.26
Can't say	203 (77.8)	58 (22.2)		
Tooth color				
Normal	89 (78.1)	25 (21.9)	0.19	0.67
Abnormal	228 (80.0)	57 (20.0)		
Tooth arrangement				
Well aligned	198 (82.5)	42 (17.5)	3.43	0.06
Not aligned	119 (74.8)	40 (25.2)		
Tooth strength				
Strong	299 (81.7)	67 (18.3)	52.86	0.01*
Not strong	18 (54.5)	33 (8.3)		
Total	317 (79.4)	82 (20.6)		

$\chi^2$ =Chi-square statistics,\*Statistically significant

This however contrasted with finding of previous study, which reported that ethnic origin does not have effect on the perception of malocclusion.<sup>[27]</sup> The finding of this study may be explained by the fact that the standards of beauty vary from race to race, place to place and from time to time.<sup>[28]</sup> Oral healthcare providers should take the findings into consideration while treating patients in ethnic diverse environment.

Skin color plays crucial and independent roles in attractiveness preferences. Skin lightness is closely correlated in African skin with paler skin being considered youthful, a desired feature and a cue to health.<sup>[29,30]</sup> In this study, light skinned participants were

**Table 3: Factors associated with dental appearance satisfaction among male and female participants**

Variable	Males			Females			Overall		
	OR	95% CI	Pvalue	OR	95% CI	Pvalue	OR	95% CI	Pvalue
Demographic characteristics									
Age (years)	0.782	0.33-1.88	0.58	0.81	0.37-1.77	0.60	0.77	0.44-1.36	0.37
Gender							1.15	0.67-1.97	0.62
Ethnicity	0.46	0.18-1.19	0.11	0.64	0.31-1.31	0.22	0.55	0.32-0.96	0.04*
Skin color	2.57	1.09-6.09	0.03*	1.11	0.55-2.23	0.78	1.74	1.03-2.93	0.04*
Oral health habits									
Smoking	1.37	0.29-6.48	0.69	4.40	-	1.00	1.42	0.36-5.59	0.62
Alcohol consumption	0.84	0.36-1.98	0.70	0.45	0.21-0.95	0.04*	0.57	0.33-0.99	0.05
Dental visit	1.60	0.61-4.19	0.34	0.59	0.28-1.25	0.17	0.98	0.56-1.74	0.96
Dental appearance									
Size of tooth	1.36	0.58-3.16	0.48	2.37	1.15-4.89	0.02*	1.82	1.07-3.09	0.03*
Shape of tooth	0.98	0.83-1.16	0.83	1.12	0.94-1.34	0.20	1.04	0.93-1.16	0.55
Color of tooth	0.81	0.52-1.24	0.33	1.20	0.79-1.83	0.39	0.96	0.72-1.28	0.77
Arrangement of tooth	1.48	0.62-3.53	0.38	0.99	0.46-2.03	0.93	1.23	0.72-2.10	0.45
Strength of tooth	5.83	1.40-24.28	0.02*	2.58	0.95-7.00	0.06	3.42	1.58-7.41	0.01*
Constant	0.01		0.05	0.01		1.00	0.01		0.04

OR: Odds ratio, CI: Confidence interval.\*Statistically significant

1.74 times more likely to express satisfaction with their dental appearance than dark skinned participants. Amongst male participants, light skinned participants were also 2.57 times more likely to express satisfaction with their dental appearance than dark skinned participants.

Non-alcohol consuming females expressed more satisfaction with their dental appearance than their counterparts. This could be explained by previous study report which revealed that individuals with high dental aesthetics scores assessed by means of the aesthetic component of the index of orthodontic treatment need have better self-perceived oral health, more favorable oral-health attitudes, such as internal control, dental awareness, value of occlusion and preventive behavior expectations.<sup>[31]</sup> The several adverse oral health effects of alcohol and cultural attitude to alcohol consumption in females may influence alcohol consumers to report less dental satisfaction appearance.

The consideration of tooth size as a dental appearance attractive feature have been reported several studies.<sup>[32-34]</sup> The size of teeth alongside visibility of teeth and upper lip position have also been considered as critical factors in the self-perception of smile attractiveness.<sup>[35]</sup> In this study, tooth size was a determinant of dental appearance satisfaction among females and all participants. This may be explained from the a previous study finding which cited abnormal tooth size among the three least liked occlusal features.<sup>[27]</sup>

Dental health emerged as a significant determinant of self-evaluated dental appearance satisfaction among males and all participants. The consideration of strong teeth as those resistant to dental caries and dominant fibrous diet consumption in Nigeria, which needs a lot of chewing is an explanation for tooth strength as a determinant of dental

appearance satisfaction in this study. Although this study finding may be limited by the self-reporting nature of the data, the inherently subjective nature of aesthetics qualifies this research, a useful applicable data in dental care of young adults especially in this era where patient-oriented health care delivery approach is favored above clinician-oriented health care delivery approach.

## Conclusion

Data from study revealed that more than three-quarters of the studied participants expressed satisfaction with their dental appearance and the emerged overall significant predictors of this self-evaluated dental appearance satisfaction were ethnicity, skin color, alcohol consumption, tooth size and dental health.

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**How to cite this article:** Azodo CC, Ogbomo AC. Self-evaluated dental appearance satisfaction among young adults. *Ann Med Health Sci Res* 2014;4:603-7.

**Source of Support:** Nil. **Conflict of Interest:** None declared.