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THE MOST IMPORTANT ASPECTS IN ASSESSING A SMILE

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ABSTRACT. A beautiful and harmonious smile can make a person smarter or even more popular. When assessing a smile, our opinion can be influenced by several factors: previous medical studies, age or sex. Our paper aims to classify the aspects that are considered when admiring a smile depending on the factors mentioned above. Results showed that regardless of gender, both female and males consider that white and straight teeth are the most important aspects. On the other hand, laypersons agree that white and straight teeth are the most important, while dentists and orthodontist take also into consideration a gingival exposure of 0-3mm. Overall, a person`s opinion can be influenced considerably by previous medical studies and by the age of 45.
KEYWORDS: smile, white teeth, straight teeth, gingival exposure.

INTRODUCTION

Smile aesthetics has been widely studied in orthodontics, the face attractiveness depending on a number of features, the most important being the eyes and the smile. In their inter-individual relationships, people take more into consideration the aspect of their interlocutor's eyes and mouth and less other facial features. Regarding the attractiveness generated by a person`s appearance, laypersons consider that the aesthetics of the smile occupies a second place, right after the aspect of the eyes. (Vaida L et al., 2009)

Individuals with beautiful teeth and harmonious smile are considered more attractive, smarter and even more popular. When assessing a smile, the size, shape, colour, position of the teeth, gingival exposure along with lip morphology must be taken into consideration. The limits of the aesthetic area are given by the upper and lower lip movements during smile and speech. (Beall AE, 2007; Hideki I et al., 2010)

To obtain an impartial assessment of a smile aesthetics as much as possible, a diagram of facial aesthetic references (DFAR) was created. It consists of six lines drawn around maxillary incisors and canines. This chart is intended to highlight the position and the ratio between the teeth as well as the relationship between the lip and gum morphology in frontal view. This diagram consists of four dental-gingival lines: the cervical line passing through the gingival apexes of the maxillary canines, central and lateral incisors, the papillary line passing through the tips of the gingival papillae, the contact points line passing through the contacts of anterior maxillary teeth, the incisal line which follows the edges of the anterior maxillary teeth to which the upper lip line and lower lip line are added. Between the papillary line and the contact points line it results an area called the connector band. (Câmara CA, 2010; Goldstein RE, 1980; Puppin FA, 2002; Teo CS, 1981; Morley J et al., 2001)

The aim of this paper is to emphasize the most frequently evaluated aspects when assessing a smile considering age, sex and medical studies.

MATERIAL AND METHODS

This study was conducted between the 1st June 2016 and the 31st January 2017 on a group of 235 respondents aged between 15 and 63, the mean age of 26.2. They were divided into 3 categories: lay persons (162: 28 men, 134 women), dentists (61: 11 men, 50 women) and orthodontists (12: 2 men, 10 women).

The research consisted of an on-line application of a questionnaire using the isondaje.ro website. The questionnaire containing questions with single or multiple choices, initially, classifies the respondents depending on age, gender, location and level of education. Later, they have to choose the most important aspect when evaluating a smile from the following items: straight teeth, white teeth, symmetrical smile, space between upper central incisors, 0-3mm gummy smile, over 3mm gummy smile, under 0mm gummy smile.

The dissemination of this research tool was carried out through social networks or via e-mail. The

results obtained were included in tables using Microsoft Excel and the statistically significant differences for various correlations were determined using the MedCalc® program by the Chi-square test. A p <0.05 value was considered statistically significant.

RESULTS AND DISCUSSION

The distribution of the answers regarding the most important aspect that makes a smile beautiful was equal between sexes, white and straight teeth achieving the higher rates (p=0.8521).

The answers regarding the most important aspect of an attractive smile were different among the three professional categories taken into study. Thus, laypersons mostly chose white and straight teeth, while dentists and orthodontists mostly chose straight teeth and a gummy smile of 0-3mm (Table 1). Comparing the laypersons` category to dentists or orthodontists` categories, a significant difference can be obtained (p<0.0001). Comparing the two medical categories, no significant difference can be obtained (p=0.5367). This significant difference is no longer valid when we take only male into consideration (p=0.1605), but is maintained when only females are considered (p<0.0001 between females of the medical categories compared to females of the laypersons category and p=0.3018 between females of the two medical categories). These different results between sexes can be caused by the fact that most respondents are females. Moreover, it can be observed that these results depend a lot on the respondent`s studies: for an individual without medical studies it is more important to have white and straight teeth rather than a symmetrical smile with minimal gingival exposure.

Our results are partially similar to those of Kokich et al. (2001) who concluded that orthodontists and laypeople rated a 3-mm gingival exposure as unattractive (Kokich VG et al., 2001). On the other hand, Oreški NP et al. (2017) showed that laypersons give the lowest scores to the appearance of teeth, tooth colour and appearance of the dental arches and the highest scores to the appearance of the gums. Specialists in dental prosthetics gave top scores (p <0.01) for the shape and color of teeth, the appearance of the dental arches and lips and general appearance of the lower third of the face and the lowest scores for the appearance of the gums (p <0.01) (Oreški NP et al., 2017). These results are opposite to ours, because the laypersons that responded to our questionnaire do not consider taking into account gingival exposure.

The distribution of the answers to the same question was not equal between various age categories. White and straight teeth are the most important to the population under 45 years old (p=0.0010), while people over 45 years old begin to take more into account a gummy smile of 0-3mm (Table 2).

According to these results, young people consider more important white and straight teeth when evaluating a smile compared to people over 45. This could be explained by the fact that, nowadays, more and more young people use various methods of dental bleaching at home starting from younger ages and not taking into consideration the risks to which they expose themselves by being subjected repeatedly to such treatments. Also, pharmaceutical companies are intensively promoting by various methods such minimally invasive, cheap and affordable treatments for anyone. On the other hand, people over the age of 45 consider that these aspects are less important when assessing a smile maybe because they do not completely trust the effectiveness of these treatments in the long-term and do not want to take any risk. However, if they needed a prosthetic treatment at this age, when choosing the colour of the prosthetic, they will always ask for the brighter colour, motivating that "if they had no white teeth in their youth, at least now, on the verge of senescence, they would like to have white teeth". Still, they are unaware that the prosthetic will look artificial and will be easily observed by anyone, including people without medical studies. Moreover, people over 45 are aware that ordinary people usually associate an excessive gingival display with youth. This is the reason why a gummy smile of 0-3mm is a desirable aspect when evaluating a smile.

Our results are similar to those published in 2011 by Larissa Suzuki et al., who also showed that a gingival smile of 0-1mm is the most appreciated and to the results published by Kokich et al who concluded that a gingival exposure of 4mm is noticeably unattractive by all categories. According to Oreški NP, male assessors and people aged 36-55 are the least critical in assessing the shape and the colour of teeth, appearance of the arches and lips and the general appearance of the lower third of the face. Similar to our results, when assessing the gums, the most tolerant assessors proved to be patients over the age of 55 (p<0.01). This may be explained by the fact that the older people get, more alterations of the smile can be observed: absent teeth or tooth wear, uneven gingival margins, atrophy of the bone and gingival papillae, satin-like and friable mucosa, gingival losses stippling aspect, thinner epithelial tissues, a reduced number of capillaries, diminished keratinization, reduced number of cells in connective tissue, increased quantity of intercellular substances, reduced blood supply, decreased oxygen consumption (Suzuki L et al., 2011; Kokich VO et al., 1999; Andreescu CF et al., 2013).

CONCLUSIONS

Overall, this study shows that the aspects that are assessed when evaluating a smile can vary depending on age and on previous medical studies.

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Table 1: The distribution of the answers depending on previous medical studies

Answers	Without medical Studies (n=162)	Dentist (n=61)	Orthodontist (n=12)	p
White teeth	48	2	0	
Straight teeth	76	23	7	
Diastema	0	1	0	
Gingival exposure of 0-3mm	8	15	4	<0,0001
Gingival exposure more than 3mm	1	0	0	
Gingival exposure under 0mm	5	4	0	
Symmetric smile	24	16	1	

Table 2: The distribution of the answers depending on the respondents` age

Answer	15-30 years (n=193)	30-45 years (n=26)	over 45 years (n=16)	p
White teeth	45	1	4	
Straight teeth	92	11	3	
Diastema	1	0	0	
Gingival exposure of 0-3mm	16	6	5	0,0010*
Gingival exposure more than 3mm	0	0	1	
Gingival exposure under 0mm	7	1	1	
Symmetric smile	32	7	2	