



# INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 4.295

(Volume 5, Issue 2)

Available online at: [www.ijariit.com](http://www.ijariit.com)

## To find out correlation between the temperament and the parameters of a smile: A photographic study on visagism

Dr. Pradnya V. Bansode

[dr.pradnya\\_mds@rediffmail.com](mailto:dr.pradnya_mds@rediffmail.com)

Government Dental Hospital and College, Aurangabad,  
Maharashtra

Dr. Seema D. Pathak

[seemadpathak@gmail.com](mailto:seemadpathak@gmail.com)

Government Dental Hospital and College, Aurangabad,  
Maharashtra

Dr. M. B. Wavdhane

[mbwavdhane@gmail.com](mailto:mbwavdhane@gmail.com)

Government Dental Hospital and College, Aurangabad,  
Maharashtra

Dr. Devika M. Kalaskar

[devvukalaskar@gmail.com](mailto:devvukalaskar@gmail.com)

Government Dental Hospital and College, Aurangabad,  
Maharashtra

### ABSTRACT

*In order to design a more life-like smile, it is necessary to co-relate it to the personality of the subject. It is possible using a novel concept of "Visagism". With the Visagism concept, clinicians can design a smile that blends the patient's physical appearance with his/her personality and desires. Aim: To find out as to whether the concept of Visagism is present in dentate individuals. Setting and Design: A self-reporting questionnaire was formulated which highlighted the reaction of female subjects to different situations in life and hence their personality was determined. Materials and Methods: The photographs of teeth of the same subjects were taken, and their tooth forms, long axes, and embrasure lines were drawn using the software. Statistical Analysis Used: These parameters were then statistically analyzed and correlated with the individual personality. Results and Conclusion: A definite correlation was found between the temperament and the parameters of a smile. The parameter of tooth form was more closely related to the personality and the most common temperament was found out.*

**Keywords**— Esthetics, Personality, Smile design, Visagism

### INTRODUCTION

For decades, dental clinicians have sought to harmonize the shapes of the teeth based on parameters such as sex, age, and personality. According to Hippocrates, an individual's personality is formed by a unique combination of four types of temperaments – choleric, sanguine, melancholic, and phlegmatic. These terms were later substituted with strong, dynamic, sensitive, and peaceful. The shape of the face and teeth in relation to the four temperaments can be described in table no.1 as follows:

**Table 1: Shape of the face and teeth in relation to different temperaments**

Temperament	Qualities	Face type	The long axis of central incisors	The shape of central incisors	Connection line of embrasures
Choleric/ strong	Strong leadership qualities and fearlessness	Rectangular face with well-defined angles	Perpendicular to the horizontal plane	Rectangular central incisors	Horizontal
Sanguine/ dynamic	Active, communicative, and extroverted	Angular face	Inclined slightly distally to the horizontal plane	Triangular or trapezoidal	Ascendant from the medial line
Melancholic/ sensitive	Gentleness and abstract thinking	Oval face with rounded features	Distally inclined to the horizontal plane	Oval	Descendent from the medial line
Phlegmatic/ peaceful	Gentle, discreet and diplomatic	Round or a square face	Perpendicular to the horizontal plane	Square and small	Straight

[1-7]. The personality of a patient is the most reliable source of knowledge by which it is possible to express the patient's dignity through restorative methods.[8-10] Esthetics in dentistry has come a long way and with the technologies available today we can promise our patients a great smile.[11,12]

The concept of Visagism is derived from the French word "visage" meaning face. It involves the creation of a customized personal image that expresses a person's sense of identity. It makes possible to determine the emotions and personality traits,

which the patients wish to express through their appearance and smile. With the Visagism concept, clinicians can design a smile that blends a patient's physical appearance with his personality and desires. [13]

Based on this concept, a photographic study was planned to find:

- (a) The correlation between tooth form and the temperament
- (b) The position of the long axis of maxillary anterior teeth to the horizontal plane in each temperament
- (c) The connection lines of the embrasures between the maxillary central and lateral incisors in each temperament.

Ethical Committee clearance and informed consent from the selected subjects were taken.

## 2. SELECTION CRITERIA

Fifty female subjects aged between 18 and 25 years were selected whose identity was kept confidential.

- **Inclusion criteria:** Patients having a symmetrical face and a full complement of properly aligned natural teeth.
- **Exclusion criteria:** Patients who have undergone any fixed or removable Prosthodontic, Orthodontic treatment or anterior esthetic restorative treatment, patients having a history of any oral destructive habits.

## 3. MATERIALS AND METHODS

A Digital camera (DSLR, Canon 1300D, Ota, Tokyo, Japan) was used for capturing the photographs. A laptop with an LCD color monitor and Windows XP professional Adobe Photoshop Adobe Systems, USA, version 7.0 in a photo editing software was used for studying the photographs.

Each subject was asked to sit upright in a comfortable position, cheek retractors were applied and the subject was instructed to occlude his/her teeth and look at the camera lens while shooting the photograph. The camera was positioned and adjusted so as to obtain a sharp frontal image of the teeth [Figure 1].



**Fig. 1: Frontal image of the teeth**

### 3.1 Method to evaluate temperament

A questionnaire [Appendix 1] was prepared that would help discover temperament of the subject. The participants were asked to answer the questions honestly. They refer to the natural inclination of the subject rather than the present practice, acquired by effort and self-control.

The subjects were to answer yes/no or doubtful. The answers in the affirmative were evaluated, and temperament which scored the maximum out of the list of answers was said to be dominant in that subject.

The photographs were evaluated on the computer with the help of software to determine the form and long axis of maxillary central incisors and the connection line of the embrasures between the central and lateral incisors. The results so obtained for each subject were compared with the type of temperament of that subject.

## 4. RESULTS

In subjects with a choleric/strong temperament, 66% had rectangular tooth form of maxillary anterior teeth [figure 2]. In sanguine/dynamic temperament, 70% of subjects had triangular tooth form [figure 3]. In subjects with melancholic/ sensitive temperament, 62% had oval tooth form [figure 4] and in subjects with phlegmatic/peaceful temperament, 66% had square tooth form [figure 5 and table 2].



**Fig. 2: Choleric/strong temperament – rectangular tooth form**



**Fig. 3: Sanguine/dynamic temperament – triangular tooth form**



Fig. 4: Melancholic/sensitive temperament – oval tooth form



Fig. 5: Phlegmatic/peaceful temperament – square tooth form



Fig. 6: Perpendicular long axis of the maxillary central incisor



Fig. 7: The connection line of the embrasures between the central and lateral incisors

It was found that in more than 50% of subjects in all the temperaments the long axis of the maxillary anterior teeth was perpendicular [figure 6 and table 3].

The connection line of embrasures between the maxillary central and lateral incisors was ascendant from medial line in 71% of subjects in choleric/strong temperament, in 75% subjects with sanguine/dynamic temperament, in 82% subjects with melancholic/sensitive temperament, and in 84% subjects with phlegmatic/peaceful temperament [figure 7 and table 4].

Table 2: Correlation between temperament and tooth form (in %)

	Choleric/ strong	Sanguine/ dynamic	Melancholic/ sensitive	Phlegmatic/ peaceful
Rectangular	66	25	1	8
Triangular	13	70	16	25
Oval	10	0	62	1
Square	11	5	21	66

Table 3: Position of the long axis of maxillary teeth to a horizontal plane (in %)

	Choleric/ strong	Sanguine/ dynamic	Melancholic/ sensitive	Phlegmatic/ peaceful
Perpendicular	70	62	55	83
Distally inclined	30	38	45	17

Table 4: Connection lines of embrasures (in %)

	Choleric/ strong	Sanguine/ dynamic	Melancholic/ sensitive	Phlegmatic/ peaceful
Horizontal	29	25	18	26
Ascendent	71	75	82	74
Descendent	0	0	0	0

## 5. DISCUSSION

Restoration design has entered a new technological age. However, observation remains key to replicating nature and working within the artistic parameters of smile design. Clinicians are required to understand beauty, harmony, balance, and proportion as perceived by society when planning for treatment. The most important factors contributing to esthetic anterior dentition are the size, shape, and arrangement of the maxillary anterior teeth, particularly the maxillary central incisors as viewed from the front. Visagism is a novel concept that applies the principles of visual art to the composition of a customized smile. With this concept, clinicians can design a smile that blends the patient's physical appearance with his personality and desires.

This study was designed to find a correlation between different kinds of temperaments with the shapes and inclinations of natural teeth. It also helped to determine whether similar patterns can be incorporated in designing artificial restorations. Based on these assessments, a definite correlation was found between the temperament and different parameters of a smile. The parameter of tooth form was more closely related to the personality. The long axis of central incisor was perpendicular in more number of cases except in sensitive patients where distal inclination was seen in an almost equal number of persons. The connecting line of

embrasures was ascendant in most of the cases. Therefore, it has been found out that these guidelines can be safely applied in clinical practice to create a satisfactory and personalized smile for each patient.

## 6. CONCLUSION

Visagism is a novel concept that applies the principles of visual art to the composition of a customized smile. This concept can be helpful to create a smile design that expresses the patient's personality and lifestyle, ensuring harmony between the restorations and the patient's physical appearance, values, and attitudes.

## 7. REFERENCES

- [1] Sharma A, Luthra R, Kaur P. A photographic study on Visagism. *Indian J Oral Sci* 2015;6:122-7.
- [2] Frush JP, Fisher RD. Introduction to dentogenic restorations. *J Prosthet Dent* 1955;5:586-95.
- [3] Frush JP, Fisher RD. How dentogenic restorations interpret the sex factor. *J Prosthet Dent* 1956;6:160-72.
- [4] Frush JP, Fisher RD. How dentogenics interprets the personality factor. *J Prosthet Dent* 1956;6:441-9.
- [5] Frush JP, Fisher RD. The age factor in dentogenics. *J Prosthet Dent* 1957;7:5-13.
- [6] Frush JP, Fisher RD. The dynesthetic interpretation of the dentogenic concept. *J Prosthet Dent* 1958;8:558-81.
- [7] Frush JP, Fisher RD. Dentogenics: Its practical application. *J Prosthet Dent* 1959;9:915-21.
- [8] Vig RG. The denture look. *J Prosthet Dent* 1961;11:1-7.
- [9] Maritato FR, Douglas JR. A positive guide to anterior tooth placement. *J Prosthet Dent* 1964;14:848-53.
- [10] Jameson WS. Dynesthetic and dentogenic concept revisited. *J Esthet Restor Dent* 2002;14:139-48.
- [11] Berksun S, Hasanreisoglu U, Gökdeniz B. Computer-based evaluation of gender identification and morphologic classification of tooth face and arch forms. *J Prosthet Dent* 2002;88:578-84.
- [12] Sellen PN, Jagger DC, Harrison A. The selection of anterior teeth appropriate for the age and sex of the individual. How variable are dental staff in their choice? *J Oral Rehabil* 2002;29:853-7.
- [13] Paolucci B, Calamita M, Coachman C, Gurel G, Shayder A, Hallawell P. Visagism: The art of dental composition. *Quintessence Dent Technol* 2012;35:187.

---

## APPENDIX

### Questionnaire

To help you discover your temperament. Be completely honest in answering the questions. They refer to your natural inclination rather than your present practice, acquired by effort and self-control. Answer yes/no or doubtful. The numbers at the end will give the key to the respective temperament.

1. Are you quickly excited at offenses and inclined to retaliate and oppose an insult immediately?
2. Do you look at life always from the serious side?
3. Do you easily lose confidence in your fellow men?
4. Are you greatly inclined to flatter those whom you love?
5. Are you won by a quiet explanation of reasons and motives, but embittered and driven to strong resistance by harsh commands?
6. Do you love company and amusements?
7. Does your thinking easily turn into reflection which may stir you up profoundly, yet not let your excitement be noted outwardly?
8. Are you vehemently provoked by disorder or injustice?
9. Do you have, and show, very little interest in what goes on about you?
10. Do you find it hard to trust people, and are you always afraid that others have a grudge against you?
11. Do you dislike prolonged reflection, and are easily distracted?
12. Do you usually not feel offense at the moment, but feel it so much more keenly a few hours later, or even the next day?
13. Is it very hard for you to deny yourself some favorite food?
14. Do you easily get angered by an offense, but soon are pleasant again?
15. Are you a person of enthusiasm, that is, are you not satisfied with the ordinary, but aspire after great and lofty things, temporal or spiritual?
16. Are you unwilling to admit a weakness or defeat, and consequently try to deceive others, even by outright lies?
17. Do you love silence and solitude and seclusion from the crowds?
18. Do you easily become jealous, envious, and uncharitable?
19. Do you feel happy when in a position to command?
20. Do you spend much time deliberating, yet reach decisions only with difficulty?
21. Do you like to be flattered?
22. Do you easily complain of insignificant ailments, constantly fear grave sickness?
23. Are you very much inclined to ease, to eating, and drinking?
24. Do you feel discouraged by difficulties in your undertakings?
25. Do you find it difficult to form new acquaintances, to speak among strangers, to find the right words to express your sentiments?
26. Do you pay keen interest to your appearance and that of others; to a beautiful face, to fine and modern clothes?
27. Do you persevere under great difficulties until you reach your goal?
28. Do you become suspicious and reticent by a rude word or unfriendly men?
29. Is it very hard to guard your eyes, ears, tongue, and keep silent?
30. Are you loathe to appear in public and to be praised?
31. Do you allow others to be preferred to you, but at the same time feel slighted because you are being ignored?

32. Do you dislike even hate, caresses, and sentimentality?
33. Can you be heartless, even cruel, in regard to the sufferings of others, even trample cold-bloodedly upon the welfare of others, if you cannot otherwise reach your goal?
34. Do you have little inclination to work, preferring repose and leisure?
35. Do you lack perseverance; does interest in things fade quickly?
36. Are you inclined to inordinate intimacy and flirtation?
37. Do you lack courage in correcting people; it may show itself in these two forms: (a) You go about it so carefully and tenderly that it can hardly be called a correction, or (b) you shout your correction excitedly and angrily?
38. Do you see everything, hear, and talk about everything?
39. Do you love light work which attracts attention, where there is no need of deep thinking or great effort?
40. Do you consider yourself as somebody; as extraordinary, as always right, and not needing the help of others?
41. Do you belittle, or by remarks and unfair means even persecute those who dare oppose you?
42. Can you quickly pass from tears to laughter, and vice versa?
43. Are you easily captivated by every new idea or mood?
44. Do you love variety in everything?
45. Do you remain composed, thoughtful, deliberate, with a sober and practical judgment, in the face of suffering, failure, offenses?
46. Do you like to poke fun at others, tease them or play tricks on them?
47. Does a strong aversion easily take root in your heart against persons from whom you have suffered or in whom you find fault, sometimes so strong that you do not want to speak to them or cannot stand the sight of them without new excitement?
48. Do you get vehemently excited by contradiction, resistance, and personal offenses and do you show this excitement in harsh words which may be, and sound like being polite, yet hurt to the core?
49. Which of these bad dispositions are yours (check one or two): (a) Obstinacy, anger, pride? (b) sloth, lack of energy? (c) lack of courage, the dread of suffering? (d) talkativeness, inconsistency?
50. Which of these good traits come naturally to you (check one or two): (a) Good nature, repose of mind? (b) sympathy for others, love for solitude and prayer? (c) strong will, energy, fearlessness, ambition? (d) cheerfulness, the facility to get along well with difficult people?

Some of the preceding questions refer to two or more temperaments; they are overlapping. The choleric temperament is indicated by the affirmative answer to the following numbers: 1, 5, 8, 15, 16, 19, 27, 32, 33, 40, 41, 47, 48, 49a, 50c.

The sanguine temperament: 4, 6, 11, 13, 14, 20, 21, 24, 26, 29, 34, 35, 36, 38, 39, 42, 43, 44, 46, 49d, 50d.

The melancholic temperament: 2, 3, 5, 7, 10, 12, 13, 17, 18, 20, 22, 24, 25, 28, 30, 31, 37, 47, 49c, 50b.

The phlegmatic temperament: 9, 23, 34, 35, 45, 49b, 50a.

*Note: Answer the questions first, honestly, simply, and sincerely; then try to classify according to the numbers.*