

Visagism-A Window To Personalised Smile Design

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Abstract

Nowadays, aesthetic treatments are more and more in demand as people's concerns about their appearance, particularly in the dental industry, have grown. Various principles of a pleasing smile have been put forth by numerous authors, along with guidelines for the ideal structure of the face and teeth. Recently, ideas like Visagism have been combined with these parameters. It places emphasis on the individuality and beauty of each person. It is an art that focuses on developing a unique personal brand that is in tune with aesthetics and each person's personality and lifestyle.

Keywords: Visagism, smile design, personality characteristics

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I. Introduction

Smile is the emotion of joy, wonder, and celebration. It is the manifestation of inner tranquillity, certainty, joy, and contentment. How effectively a person can interact with others in society is frequently influenced by their capacity to express a wide range of emotions through the shape and movement of their lips and teeth. An attractive or pleasing smile definitely increases a person's acceptance in the society to which they belong, and the smile's characteristics greatly affect a person's attractiveness and personality.

As people's concerns about their appearance have grown, particularly in the dental field, aesthetic treatments are becoming more and more popular today. Various parameters for the ideal composition of the facial and dental structures have been offered by a number of authors. Recently, ideas like visagism have been combined with these parameters [1].

Visagism places a strong emphasis on the individuality and beauty of each and every person. It is an art that focuses on developing a unique image that is in tune with aesthetics and each person's personality and lifestyle.

II. History

The term "visagism" was first used in 1936 by legendary hairdresser and makeup artist Fernand Aubry (1907-1976), and it is derived from the French word "visage," which means "face." He never wrote a book or defined the concept visagism. There were only a few snatches of his makeup lessons or phrases, illustrating the idea that a beauty expert should express a person's personality rather than fashion, for a harmonious and aesthetically pleasing appearance.

Later, a plastic artist named Phillip Hallawel developed and precisely defined this idea. He is the author of the first book in this concept, "Visagismo: Harmony and Esthetics." Visagism entails the development of a personalized image that conveys a person's identity. The approach taken to put this idea into practice is derived from the relationship between the fundamentals of artistic visual language and fields like psychology, neurobiology, anthropology, and sociology. Through the use of visagism, it is now possible to identify the emotions and personality traits that patients want to convey through their outward appearance, specifically through their smile. Clinicians can create a smile using the visagism concept that combines the patient's physical attributes, personality, and desires.

Brazilian dentist Dr. Bráulio Paolucci is credited with being the first to use the visagism concept in dentistry. He masterfully combines traditional and contemporary ideas from anthropology, psychology, and the visual arts, incorporating them into the design of the patient's smile. He worked so that he could involve the patient in the procedure by having a candid discussion about the significance of the characteristics that make up their smile. Given that the patient can take part in the planning of his smile design with visagism, the professional can be more certain of the treatment's outcome.

III. Visagism in dentistry

The Pincus silhouette, which is formed by the region of light reflection between the cusps of reflection of mesial, distal, cervical, and incisal aspect, defines the shapes of the anterior teeth.

A number of reference lines, like the connecting the gingival zeniths, incisal embrasures, gingival papillae, and incisal plane are considered. Since these lines are archetypical symbols, different combinations of their elements will cause the observer to experience various emotions.

The four basic tooth shapes are rectangular, triangular, oval, and square, with some variations. Natural tooth shapes are also a variety of interactions between vertical, horizontal, inclined, straight, and curved lines. The following categories can be used to categorize these lines emotional significance and powers of expression:

- Vertical straight lines represent strength, power, and masculinity.
- Horizontal straight lines express equilibrium, passivity, and tranquillity. They can also represent a barrier.
- Inclined straight lines express dynamism, movement, and joy.
- Curved lines represent the gradual transition between two planes (vertical and horizontal) and express gentleness, delicacy, femininity, and sensuality.

These basic formats are followed by dental arches also.[3]

These lines are combined to create the most fundamental forms or shapes, each of which reflects a different expression. The square symbolizes stability and immobility due to the inherent balance between the vertical and horizontal elements in this shape, while the triangle evokes dynamism, the oval conveys a sense of delicacy, and the vertical rectangle expresses strength through the predominance of the vertical element on the horizontal.[1]

IV. Temperaments

Temperaments are for acquiring a thorough understanding of more assertive and aligned image of who the person is, their moments of life, and their intention, rather than using temperaments to categorize people. Every temperament has distinctive qualities that the individual frequently wants to emphasize.[2]

Four temperaments, shape of face and teeth in relation to it are given below:

Choleric/strong: This kind of person has deep-set eyes, a rectangular face with sharp angles, and horizontal and vertical lines around the mouth and forehead. Strong leadership abilities, decisiveness, daring, and fearlessness characterize their personality.

The maxillary anterior teeth are arranged with their long axes parallel to the horizontal plane, the visually-dominant rectangular central incisors are vertical, and the canines are positioned vertically. Radial symmetry can be seen in the choleric/strong design. While the gingival zeniths connection lines run horizontally from canine to canine with the lateral incisors below them, the embrasures connection lines run vertically between the central and lateral incisors. Generally speaking, the maxillary arch is rectangular (Figure: 1)



Figure: 1

Sanguine/dynamic: A prominent nose, a wide mouth, and slanting lines around the eyes and forehead give this type of person an angular face. They are extroverted, talkative, and very active.

The maxillary anterior teeth in this pattern are positioned with their long axes slightly angled distally and with discreet radial symmetry. The connection lines of the embrasures and the incisal plane are ascendant from the medial line, and the connection lines of the zeniths are ascendant or in a zigzag pattern. The labial aspect of the canines is straight and palatally inclined, and the central incisors are typically triangular or trapezoidal. Most of the maxillary arch is triangular or polygonal in shape. (Figure: 2)



Figure: 2

Melancholic/sensitive: These people have oval faces with rounded or thinly defined features, close-set eyes, and an oval face. The gentleness, awareness, and capacity for abstract thought characterize the melancholic/sensitive personality.

The maxillary anterior teeth in this pattern have discrete radial symmetry and either rectilinear or distally inclined long axes. An inverted incisal plane is produced when the connection lines of the zeniths and embrasures descend from the medial line. The labial aspect of the canines is curved and inclined medially, whereas the central incisors typically have an oval shape. Most of the maxillary arch is oval. (Figure: 3)



Figure: 3

Phlegmatic/peaceful: They are gentle, discreet, and diplomatic, with a round or square face, outwardly projecting lower lips, and heavy eyelids.

Except for the canine, which may be slightly rotated sideways, the maxillary anterior teeth in this arrangement all have long axes that are perpendicular to the horizontal plane. No tooth group has the upper hand. There is horizontal symmetry, typically with a diastema in a broad arch. Both the gingival zenith connection line and the embrasure connection line are straight. The labial aspect of the canines is curved and vertically positioned, whereas the central incisors are typically square and small. Usually has a circular maxillary arch.[3] (Figure: 4)



Figure: 4

V. VISAGISMILE - SMILE DESIGN SOFTWARE

In aesthetic dentistry, the visagism concept is used to assess the facial type. This involves making subjective decisions, spending time on personality tests, and performing intricate calculations on the teeth configuration. The numerical results must then be represented graphically as a set of teeth that will benefit the patient, the dentist, and the dental laboratory. These procedures make it challenging and error-prone for dentists to apply the concept. The solution is to create a software program that does all the calculations automatically, eliminates subjective judgment, and displays the ideal tooth configuration in a matter of minutes.

There are many high-quality DSD (Digital Smile Design) software products available on the market, including Planmeca Romexis® Smile Design, Smile Designer Pro, and DSD 2D. However, the visagism concept, which creates a smile design in relation to the patient's facial type and personality and is perceived as more harmonious, is not used in these solutions. A software program called VisagiSMile automates the process of developing dental visagism cases. VisagiSMile is a multiplatform web application for cosmetic dentistry that can

be accessed immediately after completing a brief registration process. To enable dentists to work on various hardware and software platforms, including computers, tablets, and smartphones, all cases and data are stored on a server. The investigation into the Visagism software is a continuous process that constantly require changes.

By continuously delivering a usable software product, VisagiSMile is developed in accordance with the principles of agile software development. Every few weeks, the application receives an update that introduces a new version. While utilizing the new features, all users continue to use their accounts and data as before. There are seven steps involved in creating a dental visagism case with VisagiSMile. They are as follows:

1. **Face-image calibration analysis:** After creating a new case and uploading a photo of the patient's face, the user calibrates it. Two main photographs are needed to create clinical cases with VisagiSMile: one of the upper jaw with retracted lips and the other of the full face with a maximal smile and visible dentition with a contrasting tool. The VisagiSMile full-face photo with the widest smile and visible teeth is automatically positioned behind the facial frame.
2. **Analysis of face- facial map selection:** The user draws a map of the patient's face and the face type is categorized using the map.
3. **Analysis of face – type classification:** By identifying the landmarks, the software classifies the face automatically as strong, dynamic, delicate, or calm. The user can modify the outcome. The algorithm iterates through the facial features, including the facial contour, the eyes, the nose, the eyebrows, and the mouth, when a patient's photo is uploaded and the facial map is chosen. It determines which shape fits each feature the best by comparing it to the reference maps. It categorizes the entire face (for instance, 12% strong, 39% dynamic, 49% delicate, 0% calm) using the results for all features. The geometrical approximation method correctly classified 56% of the cases after being tested on test data. More cases would be used to train the algorithm, which would increase accuracy even more.
4. **Interview:** The patient completes a psychological test during the interview to ascertain their personality type. The program checks the test and determines the outcome automatically.
5. **Patient's choice:** The user can specify the patient's preferences as well as relevant lab data for the design. In determining the recommended teeth configuration, consideration is also given to the patient's preferences for the desired tooth design. The preferences include those relating to tooth color, texture, and shape. The software computes the key elements of each individual smile frame, including incisal projection, tooth shapes, tooth inclination, dominance, etc., based on the facial analysis. The interview data, facial analysis, and the patient's preference in accordance with aesthetic standards are all incorporated into the design of the smile.
6. **Preview teeth design:** A teeth design is processed by software. Depending on the dental case, the proposal can be tailored uniquely. An online interview using a software-generated questionnaire is used to identify the ideal tooth shape. A software algorithm automatically determines the patient's temperament, which is a combination of four types: strong, dynamic, delicate, and calm, based on the information from the interview. The tooth shapes that best fit the patient's unique characteristics are, strong-rectangle, dynamic-triangle, delicate-circle, and calm-square.
7. **Adapt teeth design on photo:** Modifying the suggested design to fit a picture of the patient's teeth. The clinician could easily visualize the digital smile design project on the patient's face to analyze the teeth proportions, the projection of the incisal edges, and other aesthetic factors in relation to the patient's face.[5]

VI. Conclusion

For achieving predictable aesthetic results, combining contemporary digital technologies with traditional treatment guidelines can be helpful. Visagism is a concept that can be used to produce smiles that are more genuine and unique. This idea assumes that the patient's identity and the smile's design are in perfect harmony. However, due to the lack of an objective method for analysing personality and its application to designing smiles, its use in dentistry is limited.

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