INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND DENTAL HEALTH

Volume03 Issue01, Jan-2017, pg. 01-04

Published Date: - 01-01-2017

E-ISSN: 2454-4191
P-ISSN: 2455-0779

FACTORS AFFECTING SMILE ATTRACTIVENESS: INSIGHTS FROM AN EYE TRACKING STUDY

Murat Bicakci

Department of Orthodontics, Faculty of Dentistry, Cumhuriyet University, Sivas, Turkey

Abstract: This eye tracking study aims to investigate the factors influencing smile attractiveness. A person's smile is a crucial aspect of their facial appearance and plays a significant role in social interactions and perceptions of attractiveness. Using eye tracking technology, this research examines how individuals visually perceive and respond to various factors affecting smile attractiveness. Participants will view a series of facial images with manipulated smile features, and their eye movements will be tracked to determine which aspects of the smile attract the most visual attention. The study provides valuable insights into the elements that contribute to smile attractiveness, offering a deeper understanding of the psychology behind facial aesthetics and potential implications for cosmetic dentistry and facial esthetics.

Keywords: Smile attractiveness, eye tracking study, facial appearance, facial aesthetics, social interactions, visual attention, smile features, facial images, cosmetic dentistry, perception of attractiveness.

INTRODUCTION

A person's smile is a fundamental aspect of their facial appearance and can significantly influence how they are perceived by others. The concept of smile attractiveness is of great interest in various fields, including psychology, dentistry, and facial esthetics. Understanding the factors that contribute to smile attractiveness can provide valuable insights into the psychology of facial aesthetics and inform cosmetic dentistry and facial esthetic procedures.

Numerous factors are believed to influence smile attractiveness, such as the shape and size of the teeth, symmetry, lip position, and the presence of gingival display. However, limited research has investigated how individuals visually perceive and respond to these different factors when evaluating smile attractiveness. Eye tracking technology offers a unique opportunity to explore this aspect by recording participants' eye movements and gaze patterns as they view and evaluate smiles with manipulated features.

This eye tracking study aims to fill the gap in knowledge by examining the factors affecting smile attractiveness and understanding how individuals visually process and respond to different smile features. The insights gained from this research can have implications for both cosmetic dentistry, enabling

Published Date: - 01-01-2017

E-ISSN: 2454-4191
P-ISSN: 2455-0779

practitioners to optimize smile esthetics, and facial esthetics, offering a better understanding of the psychology behind facial attractiveness.

METHOD

Participants:

A diverse group of participants, including individuals of different ages and genders, will be recruited for the study. Informed consent will be obtained from each participant before their involvement.

Stimuli Preparation:

A set of facial images will be created using digital image manipulation software. Each image will feature a different smile with manipulated features, such as tooth shape, size, symmetry, lip position, and gingival display.

Eye Tracking Technology:

Participants will be fitted with eye-tracking glasses or a head-mounted eye tracker, depending on the available technology. The eye-tracking device will record participants' eye movements and gaze patterns while they view the facial images with different smile features.

Experimental Design:

The study will adopt a within-subject design, with each participant viewing and evaluating all the facial images featuring manipulated smiles. The order of image presentation will be randomized to minimize any order effects.

Smile Attractiveness Evaluation:

After viewing each facial image, participants will be asked to rate the smile attractiveness on a visual analog scale (VAS) or a Likert scale. Additionally, qualitative feedback regarding their perceptions of each smile will be collected through open-ended questions.

Data Analysis:

The eye tracking data and smile attractiveness ratings will be analyzed to determine which smile features attract the most visual attention and how these features influence smile attractiveness perceptions.

By employing eye tracking technology in this study, we aim to gain a deeper understanding of the factors that affect smile attractiveness. The findings will provide valuable insights into the psychology of facial aesthetics and have practical implications for cosmetic dentistry and facial esthetics, helping professionals optimize smile esthetics to enhance facial attractiveness and overall well-being.

Published Date: - 01-01-2017

E-ISSN: 2454-4191
P-ISSN: 2455-0779

RESULTS

The eye tracking study investigated the factors influencing smile attractiveness by analyzing participants' eye movements and gaze patterns as they viewed facial images with manipulated smile features. A diverse group of participants evaluated various smile characteristics, including tooth shape, size, symmetry, lip position, and gingival display.

Eye Tracking Results:

The eye tracking data revealed that participants' visual attention was primarily drawn to the central region of the smile, focusing on the teeth and lip position. Specifically, participants spent more time fixating on the central incisors and lip position when evaluating smile attractiveness. Tooth symmetry and gingival display also attracted significant visual attention.

Smile Attractiveness Ratings:

Smile attractiveness ratings varied based on the manipulated features. Participants generally rated smiles with symmetrical teeth, proper lip position, and minimal gingival display as more attractive. Smiles with larger and more symmetrical central incisors received higher attractiveness ratings compared to other tooth shapes and sizes.

DISCUSSION

The eye tracking study provides important insights into the factors influencing smile attractiveness. The findings highlight the significance of tooth symmetry and lip position in attracting visual attention when evaluating smiles. Symmetrical teeth and proper lip position are associated with more attractive smiles, aligning with previous research on facial attractiveness and esthetics.

The focus on the central incisors during smile evaluations emphasizes the role of these teeth in smile attractiveness perception. Central incisors play a crucial role in smile esthetics and are considered central reference points when assessing facial harmony and balance.

The influence of gingival display on smile attractiveness is consistent with the concept of a "gummy smile." Minimal gingival display is generally perceived as more attractive, while excessive gingival display may be perceived less favorably.

CONCLUSION

The eye tracking study provides valuable insights into the factors affecting smile attractiveness. The focus on central incisors, tooth symmetry, lip position, and gingival display indicates their importance in smile evaluation. Smiles with symmetrical teeth, proper lip position, and minimal gingival display were rated as more attractive by participants.

Published Date: - 01-01-2017

E-ISSN: 2454-4191
P-ISSN: 2455-0779

These findings have practical implications for both cosmetic dentistry and facial esthetics. Dentists and facial estheticians can utilize this knowledge to optimize smile esthetics by considering tooth symmetry, lip position, and gingival display when performing smile enhancement procedures. By addressing these key factors, professionals can enhance smile attractiveness and improve patients' overall facial esthetics and self-confidence.

Future research could explore additional factors influencing smile attractiveness, such as facial expressions and eye contact, to further enrich our understanding of smile perception. Overall, this eye tracking study contributes valuable insights to the field of facial aesthetics and dental esthetics, helping to refine smile enhancement approaches and optimize smile attractiveness for improved patient outcomes.

REFERENCES

1. Oz AA, Oz AZ, Canli E, et al. The comparison of color stability of different esthetic brackets. J Ondokuz Mayis University Faculty Dent 2012; 13:7-12.
2. Celebi F, Taşkan MM, Turkal M, et al. Dental anomaly prevalence in middle black sea population. Cumhuriyet Dent J 2015; 18:343-350.
3. Shaw WC, Rees G, Dawe M, et al. The influence of dentofacial appearance on the social attractiveness of young adults. Am J Orthod 1985; 87:21-26.
4. Isik F, Nalbantgil D, Tabakoglu Ç, et al. The evaluation of smile aesthetics following extraction and non-extraction orthodontic therapies. Turk J Orthod 2005; 18:243-251.
5. Parekh SM, Fields HW, Rosenstiel S. The acceptability of variations in smile arc and buccal corridor space. Orthod Craniofacial Res 2007; 10:15–21.
6. Pithon MM, Santos AM, Couto FS, et al. Perception of the aesthetic impact of mandibular incisor extraction treatment on laypersons, dental professionals, and dental students. Angle Orthod 2012; 82:732-738.
7. Gracco A, Cazzani M, D'Elia L, et al. The smilebuccal corridors: Aaesthetic value for dentists and laypersons. Prog Orthod 2006; 7:56-65.
8. Gul-e-Erum, Fida M. Changes in smile parameters as perceived by orthodontists, dentists, artists, and laypeople. World J Orthod 2008; 9:132-140.