Less is More: The Role of Nasal Aesthetics in Visual Attention and Facial Attractiveness: An Eye-Tracking Investigation

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Background

- Facial attractiveness impacts social perception.
- Eyes and mouth get the most visual attention—but the nose is central to the face.
- Little is known about how nasal appearance affects gaze behavior.
- Goal: Use eye-tracking to objectively study how nasal aesthetics alters facial visual attention.

Hypothesis

- Attractive noses blend in—drawing less attention and supporting natural gaze flow.
- Unattractive noses disrupt harmony, pulling attention away from expressive features.

Methods

Study Design
- 34 models photographed
  - Diverse in ethnicity and gender
  - 2D Photos
    - 6 viewing angles
  - 3D Photos for Anthropometrics
    - Horizontal Facial Proportions
    - Vertical Facial Proportions
    - Nasal Tip Projection
    - Columella-Labial Angle
    - Nasofrontal Angle
    - Nasofacial Angle
    - Nasomental Angle
    - Facial Angle
    - Nasal Tip Deviation
    - Dorsal Height

| Demographic Variable	Models
Participants, n	34
Age, y, mean ± SD	38 ± 19.16
Sex, n (%)	
Female	16 (47)
Male	18 (53)
Ethnicity, n (%)	
White	7 (20)
East Asian	6 (17.6)
Black	6 (17.6)
Hispanic	5 (14.7)
South Asian	5 (14.7)
Middle Eastern	5 (14.7)

## Figure 1. Gaze Pattern Heatmap
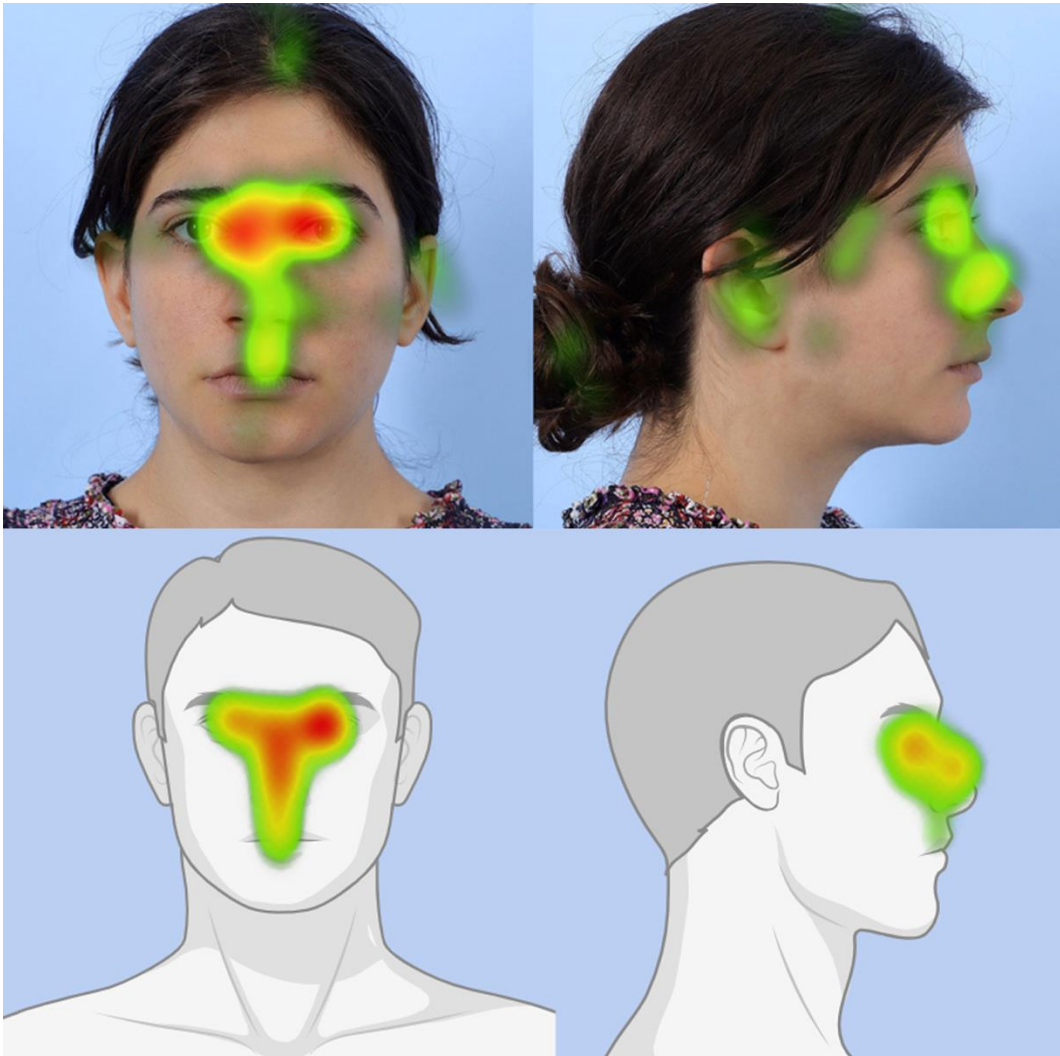
Heatmap visualization of observers' gaze patterns. Warmer colors (red) indicate high visual attention, while cooler colors (green) indicate low visual attention. Models with attractive noses received greater attention to the eyes, whereas models with unattractive noses received greater attention to the nose.

Figure 2. Visual Attention by Area of Interest

Visual Attention by Facial Feature in Models with Unattractive vs. Attractive Noses
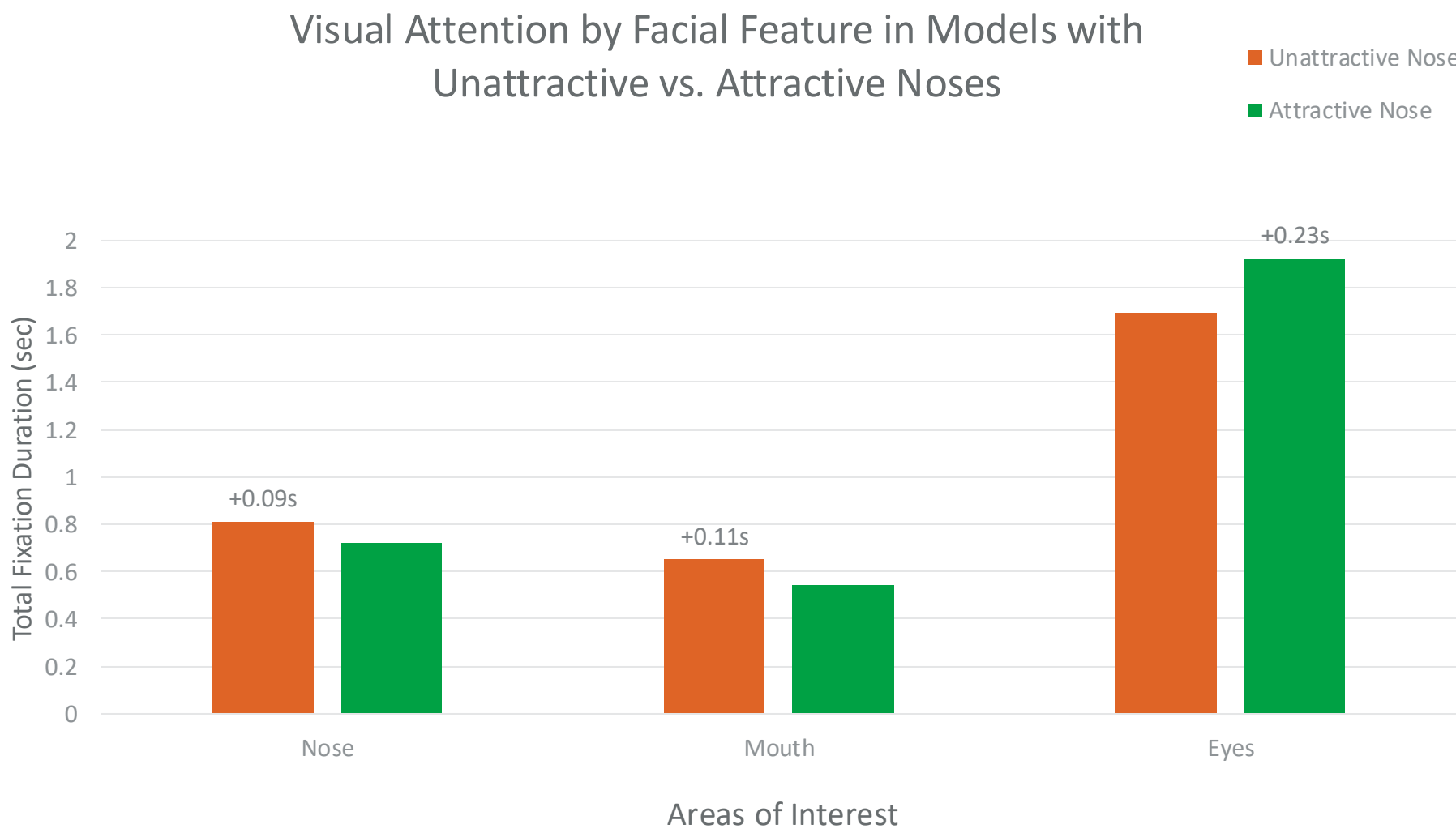
Aesthetic Evaluations

- 31 observers rated attractiveness of models using visual analog scale (1-10)
- 3 attractiveness surveys
  - 1 = Rate **face** attractiveness using **face** image-sets
  - 2 = Rate **nose** attractiveness using **face** image-sets
  - 3 = Rate **nose** attractiveness using **nose** image-sets
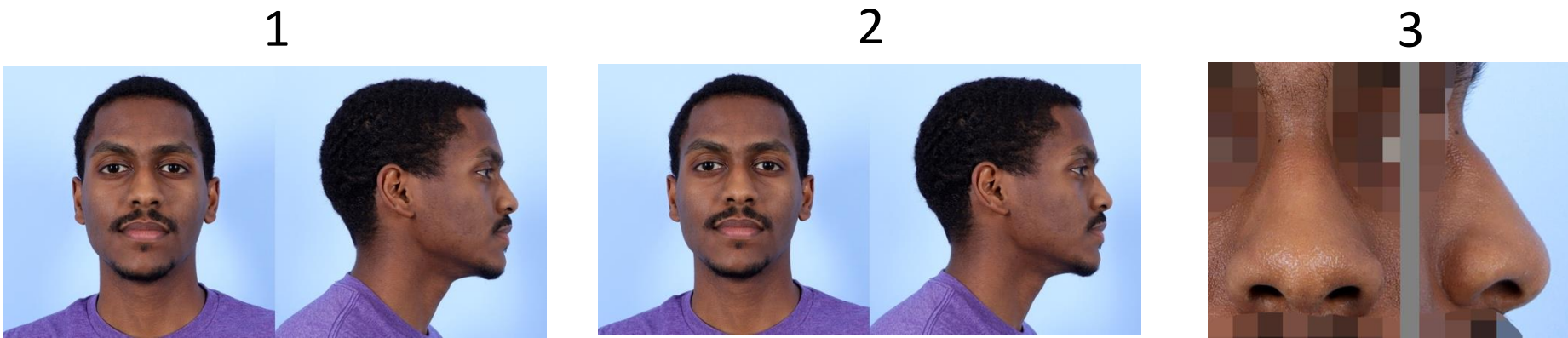
Results

- When viewing faces with unattractive noses, observers spent significantly more time fixating on the nose and mouth. In contrast, attractive noses allowed more visual attention to be directed toward the eyes (Figure 1, 2).

- Two main anthropometric measurements were associated with less attractive noses:
  - Greater nasal tip deviation (3° vs. 1°, P=0.01)
  - Longer upper lips correlated with lower facial attractiveness (Subnasale-to-Chelion, 27 mm vs. 24 mm, P=0.05)

- Neoclassical canons, nasal width, and most other traditionally emphasized anthropometrics had no significant impact
  - Reinforces subjective nature of attractiveness

Conclusions

- For rhinoplasty planning, this means **the ideal nose is not the one that stands out—it's the one that disappears**.

- Eye-tracking technology can be used to assess facial harmony, set realistic patient expectations, plan adjunctive procedures beyond just the nose.

- Surgical planning and patient goals should prioritize **harmonization over perfection.**

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