Comparison of Facial Profile Preference between Male and Female Laypersons

Introduction
The face is a key to human physical attractiveness. Facial attractiveness is a main motive for encouraging patients to seek oral care. Orthodontic treatment can influence facial aesthetics in many ways, such as by providing well-aligned teeth, an attractive smile, and a pleasing facial profile.

Aim of Study
The purpose of this study was to compare preferred facial profiles of subjects with bimaxillary protrusion produced by a 3-D facial light scanner between male and female laypersons.

Materials and Methods
Lateral cephalograms and digital 3-D facial images (Morpheus3D, Seoul, Korea) (Fig 1) were recorded for 40 Thai subjects aged 17-39 years with skeletal Class I or mild skeletal Class II jaw relationships, bimaxillary dental protrusion, and no previous orthodontic treatment. The 3-D images were modified to retrocline the maxillary central incisors 30° and retrace them 3 mm. The 3-D images were captured at 0°, 25°, 50°, 75°, and 100% of profile change. The mandibular central incisors were correspondingly retroclined and retruded in harmony with the maxillary central incisors by maintaining normal overjet and overbite. The images were printed using a high-quality printer (Ricoh Aficio SP 2500DN Color laser printer, Tokyo, Japan). Each image series consisted of both 45° and 90° lateral profile images (Fig 2). Twenty-one male and 24 female laypersons viewed all images of the subjects and ranked the facial profile of each subject with a score of 1 for the most preferred to 5 for the least preferred. The position of the upper and lower lips in relation to the E-line was measured on the most preferred images.

The data analysis was calculated using SPSS (IBM SPSS statistics 22.0, Armonk, NY, USA). Mode was calculated for the most preferred profile in each image series for both male and female laypersons. The most preferred profile between male and female laypersons was tested using Spearman’s correlation and the Chi-Square test. The preference for upper and lower lip to E-line position between male and female laypersons was tested using the paired samples t-test.

Results
The most preferred facial profile between male and female laypersons had a moderately positive correlation (r=0.5, n=40, P<0.01). The majority of laypersons chose the images at 50% of profile change as the most preferred (Fig 3). The most preferred upper lip to E-line position of male, female, and all laypersons were -1.95 mm, -2.07 mm, and -2.01 mm, respectively (Fig 4). The most preferred lower lip to E-line position of male, female, and all laypersons were -1.49 mm, -1.65 mm, and -1.57 mm, respectively (Fig 5). There were no significant differences in the most preferred facial profile or lip to E-line position between male and female laypersons (P>0.05) (Tables 1 and 2).

Conclusions
Although the female laypersons preferred more retruded upper and lower lips to E-line positions than the male laypersons, no significant differences were observed between the two groups. The male and female laypersons preferred the same facial profiles and slightly retruded upper and lower lip to E-line positions.

References