ว ทันต จุฬาฯ 2551;31:235-48
CU Dent J. 2008;31:235-48

Original Article
บทวิทยาการ

Acceptable facial profiles in Thai non-straight profile patients

Paega Jarungidanan D.D.S. (Hons)[1]
Kanok Sorathesn B.Sc. (Hons), D.D.S. (Hons), M.S. (Orthodontics)[2]

[1]Graduate student, Department of Orthodontics, Faculty of Dentistry, Chulalongkorn University
[2]Department of Orthodontics, Faculty of Dentistry, Chulalongkorn University

Abstract

Objective This study aimed to determine the acceptable facial profiles in non-straight profile patients. Gender difference was also considered to have an effect on the profiles. Orthodontists were also asked to find out the possible differences in patients' facial profile preferences.

Materials and methods The patients' pre-treatment lateral cephalometric radiographs were traced. Soft tissue landmarks (G, A, Pg') were marked and facial contour angles (FCA) were measured. Fifty-eight patients were selected by a purposive sampling method and divided into 3 groups: concave, straight, and convex profiles according to Thai norms. Nineteen orthodontists were included in this study as the gold standard group. FaceGen Modeller 3.1.2® software was used to create the facial profile distortion. Eight constructed facial profiles of each sex were presented-2 straight profiles and the other 6 facial profiles starting from decreased FCA to the most concave profile and vice versa, arranged in random order. As a result, the acceptable facial profile evaluation of the questionnaire comprised 4 pages: male concave profiles, male convex profiles, female concave profiles and female convex profiles. The subjects were asked to choose as many "acceptable facial profiles" as they wished. The subjects were also asked to evaluate their facial profiles. The frequency of each selected profile was used in the calculations.

Results The straight profile was the most popular facial profile and convex profiles were more acceptable than concave profiles if there was equal deviation from the straight profile for both subjects and orthodontists. Convex profile subjects accepted convex profiles equally or more than any other profile subjects while concave profile subjects tended not to accept severe concave profiles. Male profiles were more acceptable if deviating from normal. Male subjects could accept the severe concave profiles more than females. Non-straight profile subjects could assess themselves more accurately than those with straight profiles.

Conclusion The acceptable facial profiles of straight, convex and concave profile subjects were different. Overall, patients' acceptable profiles showed the same trend with orthodontists. The gender of the subject and of the facial profile affected what was considered an acceptable profile.

(CU Dent J. 2008;31:235-48)

Key words: *acceptable facial profiles; facial contour angle; facial profile preferences*

Introduction

Esthetics does not follow the same measurement for everyone. As a result, esthetic perception and preferences were studied in many ways.

The various occupational backgrounds of subjects were considered to be factors affecting facial profile preferences from laypeople to dental professions[1], orthodontists to oral surgeons[2,3], as well as different ages, different races[4,5], and different genders.[1]

Studies of facial profile have used various methods to construct images such as computer-modified photographs[3,6-9], computer software to create new images[10] or simple methods such as silhouettes.[4,11-15] However, photographic images may lead to perception bias of race recognition and stereotyping. Even though a silhouette can eliminate those biases[8], it relies on the subject's imagination.[1]

Computer modified photographs mainly relied on computer software, for example, Computer-assisted simulation system for orthognathic surgery 2001 (CASSOS2001; SoftEnable Technology Ltd. Hongkong)[8], TrueVision mage Processing Software (TIPS; Indianapolis, Ind: Truevision, Inc., USA)[9], and Morph (Windows version 2.5, Gryphon Software Corporation, San Diego, Calif., USA). These software need the photographs of the samples to make distortions. Unlike Facegen Modeller 3.1.2® software (Singular Inversions Inc., Vancouver, British Columbia)[16,17], it can create highly realistic or caricatured faces at random from any race, gender and adult age group.

Various terms are used in facial profile studies such as "very attractive" to "least attractive"[3,8,11], "scoring the attractiveness"[1,10], "most favored" to "least favored",[12] and "most preferred" to "least preferred".[13] However, the words "acceptable" and "unacceptable" would include all possible positive or negative value-laden words. Words in esthetic research such as "beautiful" or "attractive" may well yield different results.[9,18]

Subject's facial profile is rarely considered a factor affecting facial profile preference. A report has revealed that the raters' personal profile, which were visually examined by the researchers, has little effect on their preferences.[19] This study then aimed to determine the acceptable facial profiles of non-straight profile patients. Gender difference was also considered to have an effect. A group of orthodontists was also studied to find out possible differences from patients' preferences.

Materials and methods

Subjects

The pre-treatment lateral cephalometric radiographs of orthodontic patients currently treated in the Department of Orthodontics, Faculty of Dentistry, Chulalongkorn University were traced. Soft tissue landmarks (G, A, Pg') were marked and facial contour angles (FCA) were measured by a single dentist according to Legan and Burstone.[20] Fifty-eight Thai patients, 28 males and 30 females, without craniofacial

deformities were selected by purposive sampling method. Their educational levels were high school or above and their age range was limited form 16 to 35 years old on the day the questionnaire was carried out. The patients were divided into 3 groups: concave, straight, and convex profiles according to their FCA with references to Thai norms.[21] Nineteen orthodontists, 10 males and 9 females, were included in this study as a gold standard group.

Questionnaires

FaceGen Modeller 3.1.2® software[17] was used to create the facial profile distortion. Although the constructed facial profiles' details were shown such as eyes, skin tone, race, all confounding factors were adjusted following to the manufacturer's instructions. In other words, the constructed facial profiles could be produced without any factors generating distractions and resulting in more "realistic" facial profiles to the subjects compared to silhouettes. Briefly, average male and female profiles, age 30, of average attractiveness and all races were used as baselines after the slide bars in the shape category were all set at zero. On the profile view, the chin-pronounced/recessed slider was slid to produce normal FCA and six plus and minus. To be more specific, the normal male profile's FCA was 10°. The slightest concave profile's FCA was 4° and the slightest convex profile's FCA was 14°. For females, the normal FCA was 9°. The slightest concave FCA was 15° and the slightest concave profile's FCA was 5°. The next five convex and concave profiles of both male and female facial profiles were adjusted following the manufacturer's instructions. As a result, 13 constructed faces were saved and used in the questionnaires.

The questionnaire was composed of 3 parts. The first part was about general information such as name, age and level of education. The second part asked the patients to identify the "retruded chin" and "protruded chin" profiles. If they failed to do so, they were eliminated from the study. Five constructed profiles were presented; one was normal, two had different degrees of convex profiles and the others had different degrees of concave profiles. The patients were asked to evaluate themselves before orthodontic treatment compared to these constructed facial profiles.

The last part was to evaluate their acceptable facial profiles. Eight constructed facial profiles of each sex were presented-2 straight profiles and the other 6 facial profiles starting from decreased FCA to the most concave profile and vice versa, arranged in random order. As a result, the last part of the questionnaire comprised 4 pages: male concave profiles (Fig. 1), male convex profiles, female concave profiles and female convex profiles. Since each page contained two straight (normal) profiles, two levels of the patients' reproducibility were checked on every page, that is, the identifications of all straight profiles and of at least one straight profile. The last part was the only one given to the orthodontists.

From these eight facial profiles, the subjects were asked to choose as many "acceptable" profiles as they wished. The frequency of each selected profile was used in the calculations. A Chi-square test was also used to compare the reproducibility between subjects and orthodontists in each level.

Results

The mean and standard deviation of the patients' age were 22.76 and 4.65 years old, respectively. The distributions of the patients' profiles were shown in Table 1.

In the questionnaire, the acceptable facial profiles were separated into four categories; acceptable male concave profiles, acceptable male convex

profiles, acceptable female concave profiles and acceptable female convex profiles. It was revealed that the straight profiles were most selected whether or not they appeared among concave or convex ones (Fig. 2). Convex profiles were selected more than concave profiles if deviating equally from normal.

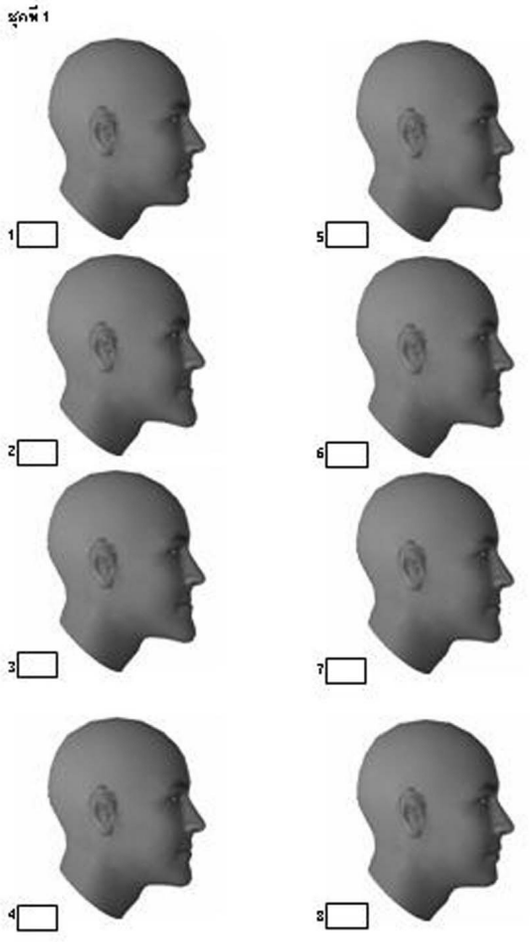


Fig. 1 A sample of one of pages from the questionnaire. This is the male-concave-profile page. Profiles number 1 and 8 are straight profiles. The others are arranged in random order.

Table 1 Distribution of the patients' profiles in relation to their genders

	profile			
	straight	convex	concave	Total
Male	9	10	9	28
Female	10	10	10	30
Total	19	20	19	58

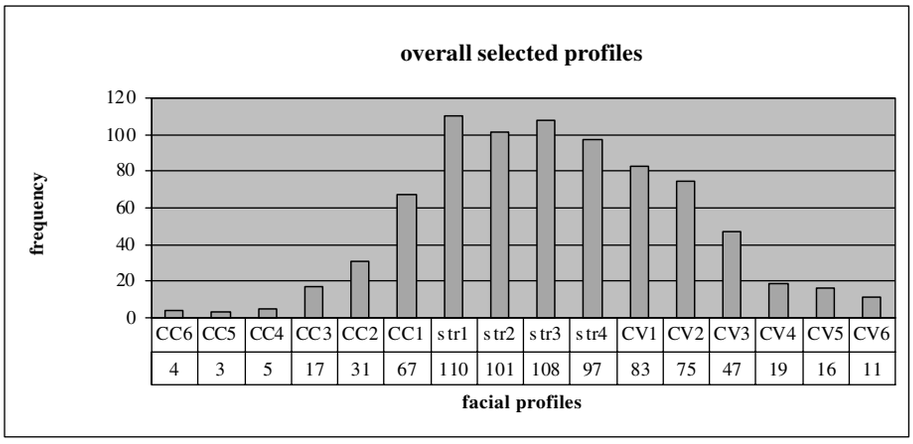


Fig. 2 Overall acceptable profiles of all patient subjects. CC stands for concave, CV stands for convex. The numbers 1 to 6 represent the severity of each facial profile from small to large. Str 1 and Str 2 stand for straight profiles which are shown on the CC profile pages while str 3 and str 4 stand for straight profiles which are shown on the CV pages.

Comparison between male and female facial profiles

Male profiles were accepted more than female profiles except for the two most concave profiles (Fig. 3). The two most concave profiles, however, were accepted more by male than females (Figs. 4 and 5). Patients could accept male facial profiles deviating from normal more than female profiles, as shown by the higher frequency. Both male and female convex profiles were accepted more than concave profiles if deviating equally from normal.

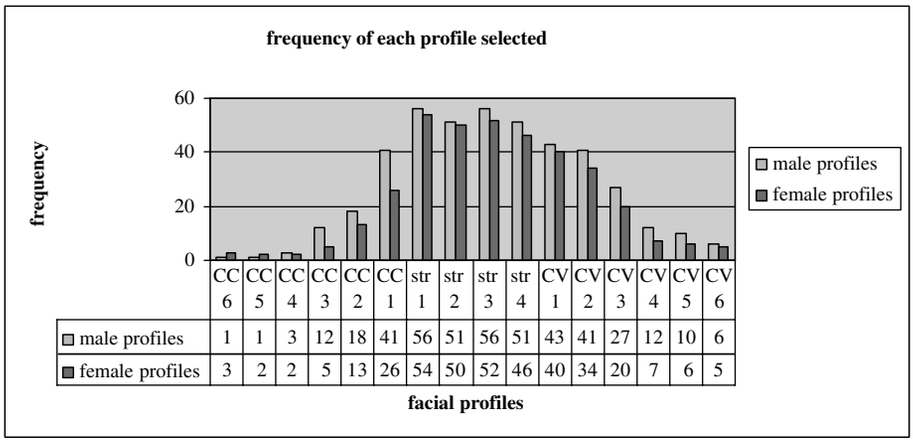
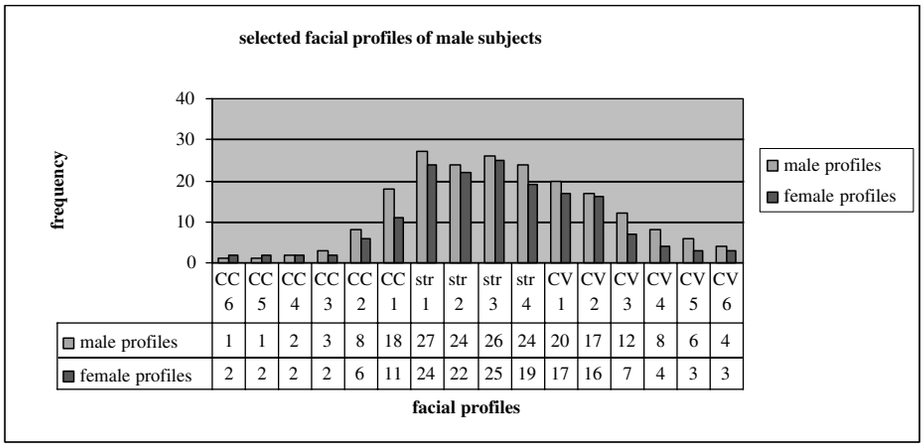
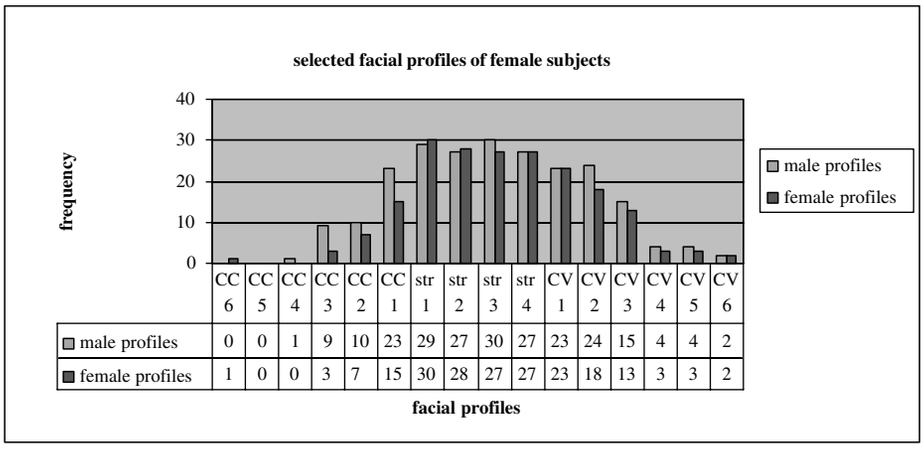


Fig. 3 Overall selected profiles in a comparison between male and female facial profiles.



	CC 6	CC 5	CC 4	CC 3	CC 2	CC 1	str 1	str 2	str 3	str 4	CV 1	CV 2	CV 3	CV 4	CV 5	CV 6
male profiles	1	1	2	3	8	18	27	24	26	24	20	17	12	8	6	4
female profiles	2	2	2	2	6	11	24	22	25	19	17	16	7	4	3	3

Fig. 4 Acceptable facial profiles of male subjects, compared between male and female profiles.



	CC 6	CC 5	CC 4	CC 3	CC 2	CC 1	str 1	str 2	str 3	str 4	CV 1	CV 2	CV 3	CV 4	CV 5	CV 6
male profiles	0	0	1	9	10	23	29	27	30	27	23	24	15	4	4	2
female profiles	1	0	0	3	7	15	30	28	27	27	23	18	13	3	3	2

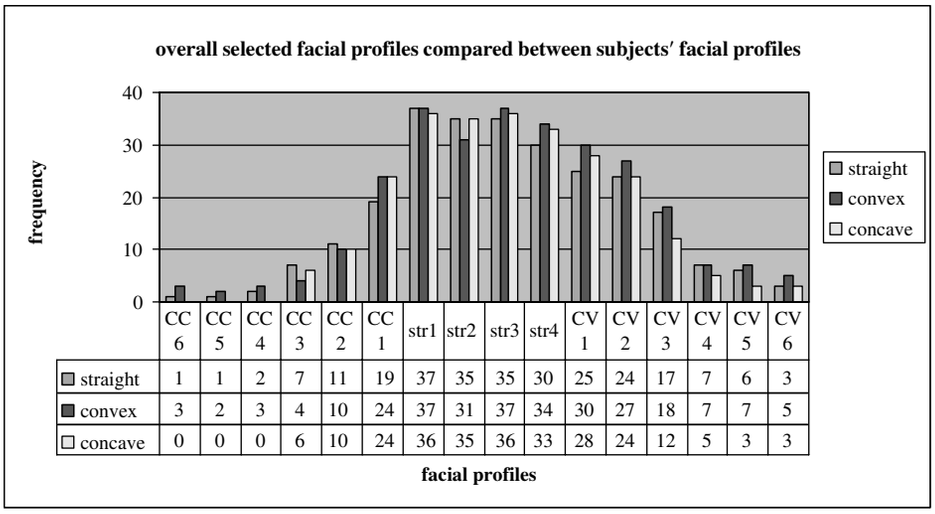
Fig. 5 Acceptable facial profiles of female subjects, compared between male and female profiles.

Comparison between male and female subjects

Both male and female subjects showed the same trend as overall subjects', that was straight profiles were the most popular facial profiles (Figs. 4 and 5). Male and female subjects accepted male and female convex profiles more than concave profiles if deviating equally from normal. However, female subjects were less likely to accept male and female concave profiles. None of the female subjects accepted the two most concave male profiles. Female subjects accepted each male profile more than the male subjects except for the three most concave and convex profiles. Among the three most concave profiles, only one female subject accepted the most concave female profiles.

Acceptable facial profiles of straight, convex and concave profile subjects

Straight, convex and concave profile subjects accepted straight profiles more than other profiles and accepted convex profiles more than concave profiles if deviating equally from normal. Convex profile subjects always accepted convex profiles equally or more than any other profile subjects, but none of the concave profile subjects accepted the 3 most concave profiles (Fig. 6).



	CC 6	CC 5	CC 4	CC 3	CC 2	CC 1	str1	str2	str3	str4	CV 1	CV 2	CV 3	CV 4	CV 5	CV 6
straight	1	1	2	7	11	19	37	35	35	30	25	24	17	7	6	3
convex	3	2	3	4	10	24	37	31	37	34	30	27	18	7	7	5
concave	0	0	0	6	10	24	36	35	36	33	28	24	12	5	3	3

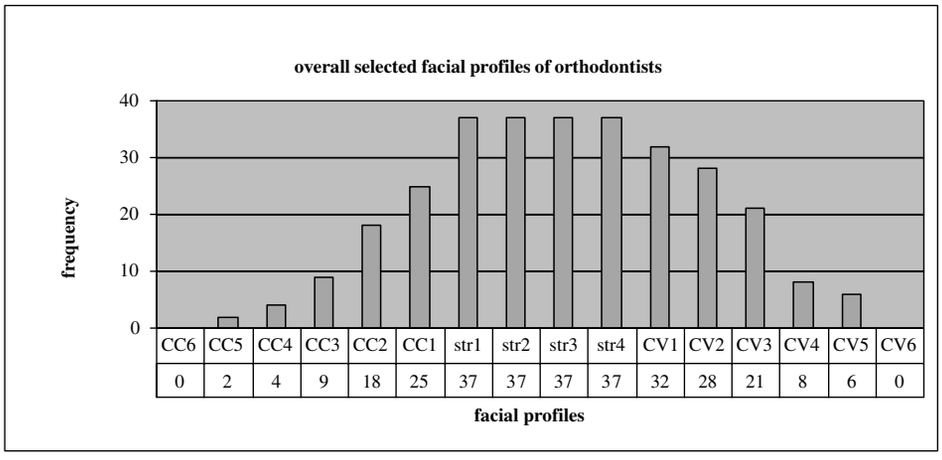
Fig. 6 Overall acceptable facial profiles compared among straight, convex and concave facial profile subjects.

Orthodontists

Straight profiles were selected most among all facial profiles. Convex profiles were accepted more often than concave profiles if deviating equally from normal. This result followed the same trend as the patients. However, none of the orthodontists accepted the most concave and convex profiles (Fig. 7).

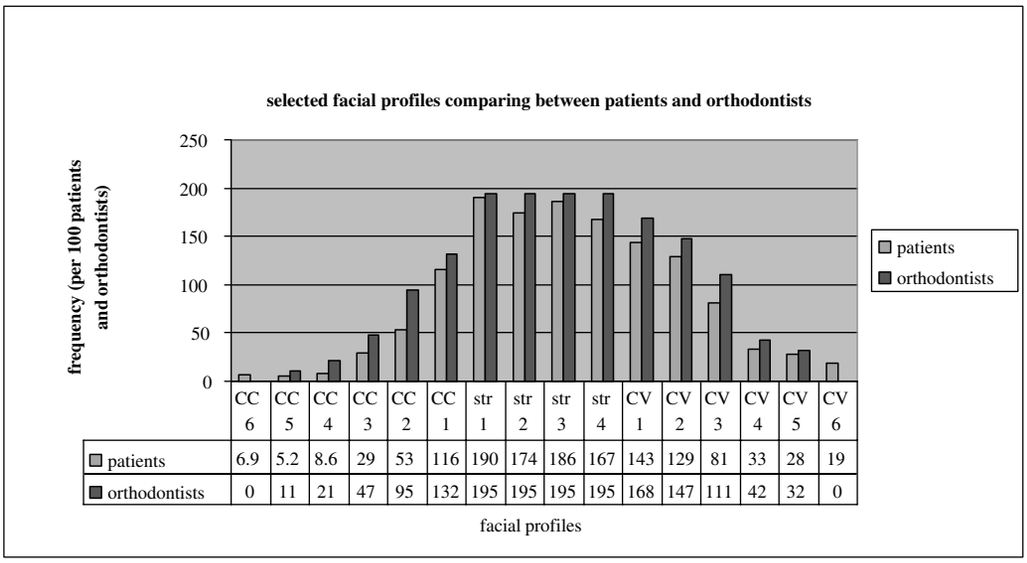
Comparison between patients and orthodontists

Orthodontists tended to accept concave and convex profiles more than patients in every degree of deviations except the most convex and concave profiles which were considered acceptable by the subjects.



CC6	CC5	CC4	CC3	CC2	CC1	str1	str2	str3	str4	CV1	CV2	CV3	CV4	CV5	CV6
0	2	4	9	18	25	37	37	37	37	32	28	21	8	6	0

Fig. 7 The overall acceptable facial profiles of orthodontists.



	CC 6	CC 5	CC 4	CC 3	CC 2	CC 1	str 1	str 2	str 3	str 4	CV 1	CV 2	CV 3	CV 4	CV 5	CV 6
patients	6.9	5.2	8.6	29	53	116	190	174	186	167	143	129	81	33	28	19
orthodontists	0	11	21	47	95	132	195	195	195	195	168	147	111	42	32	0

Fig. 8 Acceptable facial profiles selected by patients and orthodontists. Due to an unequal number of the subjects, the frequencies of each selected profile were calculated per 100 patients and orthodontists.

Reproducibility of the subjects

As mentioned previously, each page contained 2 straight profiles. The subjects may choose all of them, one of them or none on the same page of the questionnaire. If the subjects chose one or both of the straight profiles in every page of the questionnaire, they showed the first level of their reproducibility. The results showed that 89.7% of the subjects were reliable. They chose the straight profiles on every page. For orthodontists, 100% of them chose the straight profiles on every page. If the subjects chose all of the straight profiles, they showed the second level of their reproducibility. Sixty-nine percent of the subjects always chose straight profiles whenever they appeared, compared to 94.7% of the orthodontists.

The Chi-square test was used to compare the reproducibility between subjects and orthodontists in the first level and showed that it was not statistically significant. The orthodontists and the subjects could equally identify straight profiles on each page as normal. However, the comparison between reproducibility between subjects and orthodontists in the second level showed significant difference (Chi-square test, $P < 0.05$.) The orthodontists were statistically able to identify straight profiles wherever they appeared more than patients.

Self assessment

The number of subjects' overall self assessments that were right (48.30%) was nearly as many that were wrong (43.10%). However, non-straight profile subjects could assess themselves more accurately than those with straight profiles. Only 15.78% of straight profile subjects could accurately assess themselves as having straight profiles compared to 65% of convex profile subjects and 63.16% of concave profile subjects.

Discussion

Our computer-modified facial constructions using FaceGen Modeller 3.1.2® software are new. The program can eliminate any confounding factors. Other previous studies utilized computer software to distort photographs;[3,7-9,18,19,22] however the obtained

photographs still showed the overall features of the subjects and probably influenced the judgments. Silhouettes were used to eliminate these confounding factors; however, it was quite hard to ask the subjects to imagine these silhouettes as being male or female.[1] Further studies are needed to compare these methods if there is any difference in subjects' preferences.

Our acceptable facial profiles were calculated from the frequency of each selected facial profile. Simply, the scoring method was similar to the rating score, for example, scoring 1 if the facial profile was least preferred and 10 if the facial profile was most preferred. Instead of scoring each profile according to his/her preference, the patient selected the one he/she accepted and scored only one whether he/she found it most attractive or bordering on his/her acceptance. The rating score probably did not reflect the real acceptability. The subjects might rate the profiles as "least preferred" but it did not mean that they could not accept those profiles as concluded.[13]

The straight profiles were most selected, in other words, most accepted, whether or not they appeared among concave or convex profiles. Many other studies showed that the normal facial profiles were most preferred too.[8,14,19,23] It is often said beauty may be in the eye of the beholder. However, the norms that our pioneers in orthodontics had worked on are still reliable in this sense. The facial profile with normal FCA is still widely acceptable, even though it may not be considered the "most preferred."

The convex profiles were always more acceptable than concave profiles if they deviated equally from normal. This could be explained by the assertion that the convex profiles were considered to be younger and more feminine than concave profiles.[24] Türkkahraman and Gökalp considered raters' personal profiles to be a factor affecting profile preference too.[19] They concluded that the raters' personal profiles had little effect on one's esthetic preferences, but the raters' personal profiles were determined only by visual examinations conducted by the authors, in contrast to our study using FCA as a criterion to determine the facial profile of the subjects. However, FCA may not be precisely accurate because if the patient has negative FCA along with openbite, the measured FCA may be close to normal or even normal. Further studies may add vertical criteria to classify the patient's facial profile.

When the acceptable facial profiles were compared among straight, convex and concave subjects, none of the concave profile subjects accepted the three most concave profiles. On the contrary, the convex profile subjects always accepted convex profiles equally or higher than any other profile subjects. In contrast with the previous study which used patients' own profiles to make distortions, orthognathic patients had the lowest tolerance for deviation from the preferred image compared to significant others (i.e., parents, spouse, family members, friends, etc.) and orthodontists.[25] The patients probably had less tolerance to their own distorted facial profiles than others hence the discrepancy between their results and ours. It can be implied clinically that a more aggressive treatment plan should be considered in concave profile patients than convex ones.

Gender difference can be viewed from two aspects. First, male and female profiles were compared from the overall subjects' point of view. Our result shows that the subjects could accept males with more concave profiles and convex profiles than females, except for the two most concave profiles. It can also be said that the subjects could accept male profiles to "deviate from normal" more than female profiles. This finding is contrast to some other studies in which the straighter adult male profile was preferred over the female's[19,24]. This may reflect the usage and effect

of terms used in esthetic studies. Interpretations of "acceptable" and "unacceptable" would include all positive and negative value-laden connotations while using "most preferred" or "most attractive" would yield only positive connotations.[9,18] Racial differences probably the other explanation. Their subjects were white and Japanese American[15] or Turkish.[19] Our findings may be applied to treatment plans for orthodontic patients of different gender. That is, male patients can accept more esthetically compromised treatment plans than females.

Second, when comparison was made between male and female subjects, female subjects were less likely to accept male and female concave profiles. None of the female subjects accepted the two most concave male profiles. This is in contrast to some reports.[1,14] Their subjects were white so the racial differences probably explained the results. It could be concluded that female patients were more concerned about esthetics than male patients. A compromised treatment plan especially in skeletal Class III malocclusion should be carefully discussed.

The orthodontists' acceptable facial profiles showed the same trend as the patients'. The straight profiles were most accepted and the convex profiles were always more acceptable than concave profiles if they deviated equally from normal. Even though the orthodontists were trained to be "line-oriented",[24] they could accept facial profiles with deviations just as the patients did. It can be implied that orthodontists' acceptable soft tissue profiles follow the same trend as the patients'. However, the orthodontists tended to accept each profile more than the patients did except the two most concave and convex profiles. Therefore, it should be kept in mind that the most severe concave or convex profiles are still acceptable to some of the patients while some patients might not accept the convex and concave profiles that orthodontists do.

Patients and orthodontists accepted straight profiles more than any other profile, which was in agreement with previous studies.[14,19] However, our data showed that patients and orthodontists tended to accept convex profiles more than concave profiles while the results from some others went the opposite way.[8,12,14] Tükkahraman and Gökalp, concluded that patients least preferred retrognathic profiles in both genders.[19] In the Asian subjects, males and females with protrusive mandibles were judged to be least attractive.[3,7,8,26] Therefore, this is probably explained by the difference of the races of the subjects.

The patients were able to identify the straight profiles on each page even though the total correct number of identifications was not as many as the orthodontists. This might be because they were unaware that there were more than one straight profile. The orthodontists were able to identify straight profiles wherever they appeared to a significantly higher degree than the patients. This can be explained, as mentioned previously, by the fact that the orthodontists are "line-oriented."[24] We do have tools to analyze the soft tissue profiles. Sixty-nine percent of the patients chose straight profiles whenever they appeared. This confirmed the notion that the patients could detect the straight profiles and preferred them most.

In the present study, many patients assessed themselves as right or wrong for similar number. In contrast with a report by Polk *et al.*[27] They found that more than two thirds of their respondents could not select which profile silhouette most resembled themselves. It could be explained that they used facial profile silhouettes while we used facial profile constructed from computer software. Furthermore, their subjects were not orthodontic patients whereas our subjects were orthodontic patients currently receiving treatment. Furthermore, non-straight profile

subjects could assess themselves more accurately than the straight profile subjects. Therefore, patients with non-straight profiles probably knew more about their problems than the normal profile ones.

Conclusion

Among patients, the straight profile was the most popular facial profile. The convex profiles were more acceptable than concave profiles if they deviated equally from normal. The same trend was found among orthodontists. The acceptable facial profiles of straight, convex and concave profile subjects were different. Convex profile subjects accepted convex profiles equally or more than any other profile subjects while concave profile subjects tended not to accept severely concave profiles. Male profiles were more acceptable if they deviated from normal. Male subjects could accept severe concave profiles more than female subjects.

Acknowledgements

The authors would like to thank Department of Orthodontics, Faculty of Dentistry, Chulalongkorn University for unconditional support. We also wish to express our appreciations to Paipan Phitayanon, instructor, for statistic consultation. To patients and orthodontists who voluntarily participated in this study, we are thankful for their valuable contributions.

References

1. Coleman GG, Lindauer SJ, Tufekci E, Shroff B, Best AM. Influence of chin prominence on esthetic lip profile preferences. Am J Orthod Dentofacial Orthop. 2007;132(1):36-42.
2. Bell R, Kiyak HA, Joondeph DR, McNeill RW, Wallen TR. Perceptions of facial profile and their influence on the decision to undergo orthognathic surgery. Am J Orthod. 1985;88(4):323-32.
3. Soh J, Chew MT, Wong HB. Professional assessment of facial profile attractiveness. Am J Orthod Dentofacial Orthop. 2005;128(2):201-5.
4. Hall D, Taylor RW, Jacobson A, Sadowsky PL, Bartolucci A. The perception of optimal profile in African Americans versus white Americans as assessed by orthodontists and the lay public. Am J Orthod Dentofacial Orthop. 2000;118(5):514-25.
5. Hwang HS, Kim WS, McNamara JA Jr. Ethnic differences in the soft tissue profile of Korean and European-American adults with normal occlusions and well-balanced faces. Angle Orthod. 2002;72(1): 72-80.
6. Maple JR, Vig KW, Beck FM, Larsen PE, Shanker S. A comparison of providers' and consumers' perceptions of facial-profile attractiveness. Am J Orthod Dentofacial Orthop. 2005;128(6):690-6; quiz 801.
7. Soh J, Chew MT, Wong HB. A comparative assessment of the perception of Chinese facial profile esthetics. Am J Orthod Dentofacial Orthop. 2005;127(6):692-9.
8. Soh J, Chew MT, Wong HB. An Asian community's perspective on facial profile attractiveness. Community Dent Oral Epidemiol. 2007;35(1):18-24.
9. Giddon DB, Sconzo R, Kinchen JA, Evans CA. Quantitative comparison of computerized discrete and animated profile preferences. Angle Orthod. 1996;66(6):441-8.
10. Spyropoulos MN, Halazonetis DJ. Significance of the soft tissue profile on facial esthetics. Am J Orthod Dentofacial Orthop. 2001;119(5):464-71.
11. Montini RW, McGorray SP, Wheeler TT, Dolce C. Perceptions of orthognathic surgery patient's change in profile. A five-year follow-up. Angle Orthod. 2007;77(1):5-11.
12. Ioi H, Nakata S, Nakasima A, Counts AL. Anteroposterior lip positions of the most-favored Japanese facial profiles. Am J Orthod Dentofacial Orthop. 2005;128(2):206-11.

13. Czarnecki ST, Nanda RS, Currier GF. Perceptions of a balanced facial profile. Am J Orthod Dentofacial Orthop. 1993;104(2):180-7.
14. Johnston C, Hunt O, Burden D, Stevenson M, Hepper P. The influence of mandibular prominence on facial attractiveness. Eur J Orthod. 2005;27(2): 129-33.
15. Orsini MG, Huang GJ, Kiyak HA, Ramsay DS, Bollen AM, Anderson NK, *et al.* Methods to evaluate profile preferences for the anteroposterior position of the mandible. Am J Orthod Dentofacial Orthop. 2006;130(3):283-91.
16. FaceGen [homepage on the Internet]. British Columbia: Singular Inversions Inc.; c2007 [updated 2007, Oct; Cited 2007 Oct 9]. Available from: http://www.facegen.com.
17. Blanz V, Vetter T. A morphological model for the synthesis of 3D faces [homepage on the Internet]. Max-Planck Institut füer Ibiologische Kybernetik Tübingen, Germany; c1998 [updated 1998, Nov 13; cited 2007, Oct 25]. Available from: http://www.kyb.tuebingen.mpg.de/bu/people/volker/morphmod2.pdf
18. Giddon DB, Evans CA, Rains CE, Clemens IK. Influence of magnitude of horizontal and vertical deformation on preference for morphed faces. Percept Mot Skills. 1997;85:1303-13.
19. Türkkahraman H, Gökalp H. Facial profile preferences among various layers of Turkish population. Angle Orthod. 2004;74(5):640-7.
20. Legan HL, Burstone CJ. Soft tissue cephalometric analysis for orthognathic surgery. J Oral Surg. 1980;38(10):744-51.
21. Sorathesn K. Craniofacial norm for Thai in combined orthodontic surgical procedure. J Dent Assoc Thai. 1988;38(5):190-201.
22. Giddon DB. Orthodontic applications of psychological and perceptual studies of facial esthetics. Semin Orthod. 1995;1(2):82-93.
23. Dongieux J, Sassouni V. The contribution of mandibular positioned variation to facial esthetics. Angle Orthod. 1980;50(4):334-9.
24. Foster EJ. Profile preferences among diversified groups. Angle Orthod. 1973;43(1):34-40.
25. Arpino VJ, Giddon DB, BeGole EA, Evans CA. Presurgical profile preferences of patients and clinicians. Am J Orthod Dentofacial Orthop. 1998;114(6):631-7.
26. Ioi H, Nakata S, Nakasima A, Counts A. Influence of facial convexity on facial attractiveness in Japanese. Orthod Craniofac Res. 2007;10(4): 181-6.
27. Polk MS, Jr., Farman AG, Yancey JA, Gholston LR, Johnson BE, Regennitter FJ. Soft tissue profile: a survey of African-American preference. Am J Orthod Dentofacial Orthop. 1995;108(1):90-101.

รูปด้านข้างของใบหน้าที่ยอมรับได้ในผู้ป่วยจัดฟันไทยที่มีรูปด้านข้างของใบหน้าผิดปรกติ

เพกา จรุงกิจอนันต์ ท.บ. (เกียรตินิยม)[1]
กนก สรเทศน์ วท.บ. (เกียรตินิยม), ท.บ. (เกียรตินิยม), วท.ม. (ทันตกรรมจัดฟัน)[2]

[1]นิสิตปริญญามหาบัณฑิต ภาควิชาทันตกรรมจัดฟัน คณะทันตแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
[2]ภาควิชาทันตกรรมจัดฟัน คณะทันตแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

บทคัดย่อ

วัตถุประสงค์ เพื่อศึกษาหารูปด้านข้างของใบหน้าที่ยอมรับได้ในผู้ป่วยจัดฟันไทยที่มีรูปด้านข้างของใบหน้าผิดปรกติ โดยศึกษาผลจากเพศที่แตกต่างกันของผู้ป่วย และผลจากเพศของรูปด้านข้างที่ประเมินซึ่งมีต่อใบหน้าที่ยอมรับได้ รวมทั้งความแตกต่างระหว่างผลที่ได้รับจากผู้ป่วยกับจากทันตแพทย์จัดฟัน

วัสดุและวิธีการ นำภาพรังสีศีรษะด้านข้างของผู้ป่วยมาลอกส่วนเนื้อเยื่ออ่อน กำหนดจุดเนื้อเยื่ออ่อน (G, A, Pg') และวัดค่าเฟเชียลคอนทัวร์แองเกิล (FCA) เพื่อเลือกกลุ่มตัวอย่าง 58 คนด้วยวิธีการสุ่มตัวอย่างแบบเจาะจง และแบ่งเป็น 3 กลุ่ม คือ ใบหน้าแบบตรง แบบนูน และแบบเว้า โดยใช้นอร์มของ FCA ในคนไทย และใช้ทันตแพทย์จัดฟัน 19 คนเป็นกลุ่มมาตรฐาน สร้างรูปด้านข้างของใบหน้าและใช้ส่วนชุดคำสั่ง เฟซเจนโมเดลเลอร์ 3.1.2 เปลี่ยนแปลงเป็น 8 รูป และแยกเพศ โดยกำหนดให้เป็นรูปด้านข้างของใบหน้าแบบตรง จำนวน 2 รูป และเป็นรูปด้านข้างของใบหน้าแบบเว้า จำนวน 6 รูป (โดยลด FCA ตามลำดับจนได้เป็นแบบเว้าที่สุด) รวมทั้งเป็นรูปด้านข้างของใบหน้าแบบนูน จำนวน 6 รูป (โดยเพิ่ม FCA ตามลำดับจนเป็นแบบนูนที่สุด) และเรียงรูปทั้งหมดสลับกัน โดยแบ่งเป็นรูปด้านข้างของใบหน้าชายแบบเว้า รูปด้านข้างของใบหน้าชายแบบนูน รูปด้านข้างของใบหน้าหญิงแบบเว้า และรูปด้านข้างของใบหน้าหญิงแบบนูน ให้กลุ่มตัวอย่างเลือกรูปด้านข้างของใบหน้าที่ยอมรับได้โดยมิได้จำกัดจำนวน แล้วให้กลุ่มตัวอย่างประเมินรูปด้านข้างของใบหน้าของตนเอง คำนวณความถี่ของแต่ละรูปที่ถูกเลือก

ผลการศึกษา รูปด้านข้างของใบหน้าแบบตรงถูกเลือกมากที่สุด รูปด้านข้างของใบหน้าแบบนูนจะยอมรับได้มากกว่าแบบเว้าถ้าเบี่ยงเบนออกจากค่าปรกติในระดับที่เท่ากันทั้งในกลุ่มผู้ป่วยและทันตแพทย์จัดฟัน กลุ่มตัวอย่างที่มีรูปด้านข้างของใบหน้าแบบนูนจะยอมรับรูปด้านข้างของใบหน้าแบบนูนเท่ากับหรือมากกว่ากลุ่มตัวอย่างที่มีรูปด้านข้างของใบหน้าแบบอื่น ๆ ในขณะที่กลุ่มตัวอย่างที่มีรูปด้านข้างของใบหน้าแบบเว้ามีแนวโน้มที่จะไม่ยอมรับรูปด้านข้างของใบหน้าแบบเว้ามาก รูปด้านข้างของใบหน้าที่ผิดปรกติของเพศชายจะเป็นที่ยอมรับได้มากกว่าเพศหญิง กลุ่มตัวอย่างเพศชายยอมรับรูปด้านข้างของใบหน้าแบบเว้ามากได้มากกว่ากลุ่มตัวอย่างเพศหญิง กลุ่มตัวอย่างที่มีรูปด้านข้างของใบหน้าผิดปรกติจะสามารถประเมินรูปด้านข้างของใบหน้าของตนเองได้แม่นยำกว่ากลุ่มที่มีรูปด้านข้างของใบหน้าแบบปรกติ

สรุป รูปด้านข้างของใบหน้าที่ยอมรับได้ในกลุ่มตัวอย่างที่มีรูปด้านข้างของใบหน้าแบบตรง แบบนูน และแบบเว้านั้นแตกต่างกัน โดยรวมแล้วผู้ป่วยและทันตแพทย์จัดฟันมีแนวโน้มที่จะยอมรับรูปด้านข้างของใบหน้าในทิศทางเดียวกัน เพศของผู้ป่วยและเพศของรูปด้านข้างของใบหน้ามีผลต่อรูปด้านข้างของใบหน้าที่ยอมรับได้

(ว ทันต จุฬาฯ 2551;31:235-48)

คำสำคัญ: *เฟเชียลคอนทัวร์แองเกิล; รูปด้านข้างของใบหน้าที่พึงใจ; รูปด้านข้างของใบหน้าที่ยอมรับได้*