Silhouettes vs. Photographs for Evaluation of Basque Population Facial Aesthetics among Different Profile Knowledge Raters

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The aesthetic perception of patients, cephalometric standards for each ethnic group and the use of reliable diagnostic records, raises great interest in the study of human facial profile.

HYPOTHESES

- Analyze whether it is necessary to adapt cephalometric standards for the Basque population (north of Spain) using Legan and Burstone facial convexity angle.
- Study the different aesthetic appreciation and Basque facial prototype recognition on photographs vs. silhouettes for professional and non-professional raters.

MATERIALS AND METHODS

Facial profile photographs were taken and silhouettes were obtained for 30 Basque adults. Facial convexity angle was measured. An opinion survey was made to a group of 4 oral surgeons, 4 orthodontists, 4 laypeople with previous orthodontic treatment and 4 laypeople without, where, on photographs vs. silhouettes, the different aesthetic appreciation and recognition of the Basque facial prototype was analyzed.

T-test was used to compare the sample with Legan and Burstone standards. In order to analyze the agreement between silhouettes and photographs, Kappa statistics was used. Relationship between type of facial profile and being considered attractive or associated to the Basque facial prototype, Pearson’s Chi-Square or Fisher's test was used.

Conclusions

- Basque population has a smaller facial convexity angle than the standard estimated by Legan and Burstone for European-American white population. In consequence, we would consider appropriate to modify cephalometric norms during routine diagnosis and treatment planning in the Basque population.
- We found and overall agreement in associating Basque facial prototype with concave profile. The concave profile was considered less attractive in both photographs and silhouettes.
- We could not determine whether photographs or silhouettes were a more reliable diagnostic record when evaluating attractiveness or Basque facial profile recognition although we did obtained a better percentage of right answers evaluating attractiveness in silhouettes and Basque facial recognition in photographs.
- Once more, no diagnostic differences were found between the different groups of raters when evaluating facial attractiveness, however, we could appreciate a relationship between profile knowledge and a better Basque facial prototype recognition of the professionals when evaluating in silhouettes.