Commentary: An evaluation of smiles

Sheldon Peck, DDS, MScD

Retrospective evaluation of patient treatment records is a study method commonly employed by clinical orthodontists. Although some aspects of posttreatment analysis require the eye of a specialist, the evaluation of attractiveness in faces or smiles may be better left to the general public, as indicated in many studies on perception published over the years by orthodontists and by psychologists. Dr. Ronald Mackley appropriately incorporates judgments of nonprofessionals ("parents") with those of the professionals in his retrospective study of appearances and esthetic preferences.

Pretreatment and posttreatment facial photographs of a large sample of orthodontic patients were examined by six parents and five orthodontists. Each was asked to rate four aspects of treatment outcome: (1) smile attractiveness; (2) maxillary incisor torque; (3) dental protrusiveness; and (4) facial profile attractiveness. The author concluded that orthodontic and parental judges alike rated finished appearances better than initial looks in all four visual-judgment categories. In other words, orthodontic treatment was judged to improve a person's smile and dental and facial appearance.

While often believable intuitively, these and other conclusions are not backed up by sufficient hard evidence, which either is presented too loosely or has been omitted altogether from the report. For example, the paper lacks details about the selected sample – age, sex, extraction/nonextraction frequencies among the four subgroups – which could have significant bearing on the posttreatment differences under scrutiny. I missed an explanation of why a three-quarter profile photograph was used for smile evaluation rather than a more descriptive frontal view of the smile. I missed the statistical testing generally associated with data comparisons. And I missed a table of the cephalometric data with tests for statistical significance and a discussion of the error of the measuring methods.

Any new investigation of this type would be materially strengthened with a research protocol formulated to include these missing elements. Nevertheless, evaluation of static photographs in studies of facial preferences may soon be a method of the past. Advances in computer imaging now enable us to see the whole range of facial possibilities, using patient photographs as the starting point. Evaluation of aspects of the animated face which, as Dr. Mackley stresses, is important, would be easily achievable with the new technology. Computer-generated digitized revision of facial features will allow a degree of precision, control and comparability unattainable in earlier studies involving esthetic judgment.

S. Peck is Assistant Clinical Professor of Orthodontics, Harvard School of Dental Medicine in Boston, Mass.