Letters to the Editor*

Stronger methods are needed before generalizing patients' preferences

I read the interesting study by Souza–Constantino et al in the December issue (Souza–Constantino AM, Cláudia de Castro Ferreira Conti A, Capelloza Filho L, Marta SN, Rodrigues de Almeida–Pedrin R. Patients' preferences regarding age, sex, and attire of orthodontists. Am J Orthod Dentofacial Orthop 2018;154:829-34), and I think that some important points need clarification.

There was only 1 nonstandardized orthodontist representing each demographic population. Therefore, conclusions regarding age and sex might be questionable. Preferences of patients can be consciously or subconsciously affected by numerous factors, including (but not limited to) attractiveness of orthodontists. So when the research goal is to assess the roles of "age and sex," any major confounding factors that can bias patients' preferences other than age or sex should be controlled for methodologically and statistically. A proper method for this purpose may be to randomly pool a reasonably large number of orthodontists (with diverse facial and body features) from each demographic population and measuring their attractiveness scores, so that esthetics can be statistically accounted for when evaluating the roles of age and sex.

It is still possible to have 1 orthodontist per demographic group. However, the authors would need to ensure that all other major characteristics of these 4 individuals (except their age and sex) have been properly standardized or statistically controlled for, so that the only major reasons for patients preferring young and female over the rest is only being young and female, not any other major uncontrolled or unknown confounders (such as beauty of the young lady).

Orthodontists should be standardized in terms of color and form of important facial features. The older man looks different from the rest; he should not have a receding hairline or dark skin and lips, a gray beard or hair, or a different T-shirt collar, all unlike others. Heads should be actual size or at the same magnification. Currently men's heads are smaller than what should be, which might advantage women. Furthermore average women are shorter than average men. Therefore, depicting women as tall as men in the same picture implies that either the women are tall or the men are short (either way, advantaging women). Finally, orthodontists' attractiveness should have been assessed and addressed statistically, or standardized with the use of image-editing programs or by searching for similarly attractive individuals.

The small number of orthodontists per group can limit the generalizability. There were no inclusion or exclusion criteria for orthodontists (except age), therefore there was no control over appearance-related confounding factors. Even the photographic lighting was not standardized. These might considerably bias the current sex- and age-related conclusions, which could have varied completely if other orthodontists with different appearances had been recruited.

A minimum age of 25 years old (as an inclusion criterion) is too young and unrealistic for a typical orthodontist in many countries, including Brazil.

In the Methods section, a chi-square test and an unnamed test ("of multiple comparisons for proportions") were introduced without specifying their exact use; the text implies that each test had been used for all comparisons. I would appreciate clarification of the second test's name and both tests' specific uses.

In the Results section, many details and *P* values should be elaborated; for example, post hoc pairwise comparisons performed for the first sentence should be reported together with *P* values. Moreover, the significance level should be adjusted for post hoc pairwise comparisons.

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Authors' response

We appreciate the careful assessment of our manuscript and thoughtful comments. Accordingly, we attempt to answer and clarify as thoroughly as possible the doubts expressed by the reader.

We agreed that preferences of patients may be consciously or subconsciously affected by several subjective factors, such as the attractiveness of orthodontists; therefore, to exclude or minimize these variables, we chose 4 people with similar characteristics. For example, both women had white skin and straight hair, and both men had beards.

*The viewpoints expressed are solely those of the author(s) and do not reflect those of the editor(s), publisher(s), or Association.

The number of orthodontists was reduced to 4 because we thought that increasing the number of orthodontists with different facial and body characteristics from each demographic population would open up too large a range of variables. That could confuse or divert the main focus of studying the variables of age and sex.[1] The use of a facial assessment to select the 4 models before subjecting them to the target audience assessment could be valid, and possibly it could minimize the deviation related to the attractiveness of the model. In future research we may consider this methodology.

The Brazilian population is quite mixed, and for the models we chose people who could represent this Brazilian miscegenation. However, the suggestion to use orthodontists from different demographic groups gives us the idea of conducting further research with the main ethnic groups of Brazilians.

In the album presented to the interviewees, the body proportions were kept and all models are practically the same height to standardize the images; this methodology is similar to that of Kelly et al.[1]

The female model at the time of photographic capture was 25 years 10 months of age. She had just received the orthodontist degree, which in Brazil is enough for practicing orthodontics. The orthodontist degree is achieved in a regular basis after 36 months of a training program.

Regarding the statistical test applied, we clarify that we used the chi-square test to investigate the participants' preferences for the orthodontists (considering age and sex) and types of attire. To evaluate statistically significant differences (post hoc comparisons), we applied the "multiple comparisons for proportions" statistical test as described by Zar.[2] All statistical tests were performed according to an expert in analysis of statistics, and the results were presented at his recommendation.

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Incremental versus maximum bite advancement during Herbst therapy

We read "Effectiveness of incremental versus maximum bite advancement during Herbst appliance therapy in late adolescent and young adult patients" in the January 2019 issue (Amuk NG, Baysal A, Coskun R, Kurt G. Am J Orthod Dentofacial Orthop 2019;155:48-56) and consider it to be an appropriate clinical study comparing treatment effects of maximum versus incremental advancement during Herbst appliance therapy in young adults. The study sample included homogeneous groups having almost the same treatment duration, which was not so in an earlier study. However, we wish to express some concerns pertaining to the results observed.

Earlier studies have shown that the greater the bite jumping, the greater the intrusion, protrusion, and proclination of teeth.[1] The telescopic mechanism of the Herbst appliance exerts mesially and caudally directed force on mandibular anterior teeth, resulting in proclination. In this study, less protrusion and proclination of the mandibular incisors was observed in the maximum activation group. What was the maximum overjet in the sample? Were the results observed in that maximum overjet case, with maximum activation, the same in terms of lower protrusion and proclination? The basis on which the authors concluded that less protrusion and proclination of mandibular incisors occurred in the maximum activation group is unclear.

In addition, the authors mentioned decreased nasolabial angle in the incremental activation group, despite backward movement of the upper lip. How this change was observed is unclear. We welcome the authors' reply.

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