Author’s response to reviews

Title: Occlusal height difference between maxillary central and lateral incisors: should aesthetic perception influence bracket placement?

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Revision notes on HAFM-D-18-00002 Occlusal height difference between maxillary central and lateral incisors: should aesthetic perception influence bracket placement?

Reviewer #1:

1. In this research, standardized pictures in different sampling sources are crucial. They will produce many biases and affect the results. But the author explains "photographic technique is unlikely to have caused significant bias in our study; it is rather more likely that distortions cancelled each other out on average". The inferences have no strong evidences. The collected pictures cannot reveal the same "frontal view ", though the author explain "Even an oblique shot with a portrait focal length with a full-frame camera would not have much influence on crown height perception" in discussion, the author should explain the effects of vertical shot for the crown length.

Our response: Thank you for your comment! It cannot be denied that the inclination of the optical axis towards the motive (teeth in that case) leads to a certain amount of distortion on form of object lengthening or shortening, resulting in different perception of any given object. However, when it comes to reproduction of “beauty” as desired in advertisement and fashion photography, the shooter will instinctively cut out individual creativity through distortion but rather do everything for the outcome that suits the taste of the target group. Simply because the image has to be sold. Naturally, if the investigator is not the same person as the photographer, differences will remain, and an error must result. If related to OHD, this means that the measurement outcome will include certain errors. However, even with a slight amount of distortion, the difference between an OHD of 0.5mm and 1.5mm will still be detectable.
We added the latter paragraph to the revised version of the manuscript.

2. Would you show the statistical methods to decide the samples numbers when the results will reach the level of significance at 5 per cent.?

Our response: Thank you for your comment! A sample size calculation was undertaken. Please also see our response to Reviewer #2, concern no. 1. This information was added to the revised version of the manuscript.

3. What are the linear measurement errors in this research?

Our response: Thank you for your comment! Reliability of the measurements were calculated using the coefficient of variation (COV) which was 0.08 (Range 0.03 to 0.11).

4. Because the samples in this research are all female, the inferences and conclusion may be added with "females "due to the affecting factor of gender on smile aesthetic perception.

Our response: Thank you for your comment! In the “Introduction” and “Conclusions” part, we added “in females”.

5. The affecting factors on smile aesthetic perception are multiple. In this research, the maxillary central-to-lateral occlusal height difference is only investigated, there are other factors should be considered. It seems not suitable to use "… should aesthetic perception influence bracket placement?" in the topic.

Our response: Thank you for your comment! Although we fully understand your concern, we disagree: "… should aesthetic perception influence bracket placement?" was intentionally added to specify the aim of our investigation. Please also see our response to Reviewer #1, concern no. 4.

Reviewer #2:

Dear Author,

My suggestion for revision is as follows;

1. It is mentioned that it took two years to finish collecting samples. How did you determine the sample size?
Thank you for your comment! A sample size calculation was undertaken. Please see Please also see our response to Reviewer #1, concern no. 2. We added this information to the revised version of the manuscript.

2. Please explain all the conditions and standards which you applied in selecting samples in more details. (i.e exclusion criteria, how is "almost frontal" view defined in relation to midline)

Our response: Thank you for your comment! We had to rely merely on a visual assessment. We added this information to the revised version of the manuscript. Please see our comment to your concern no. 3.

In Models as well as in “normal” people, perfect symmetry of the face is never “provided” by nature. Hence, a facial midline seems not a suitable reference to use for this purpose.

3. As mentioned in discussion measurement of clinical crown heights is affected by the head position and the age group. How were these factors considered and treated in selecting samples?

Our response: Thank you for your comment! As stated above, "almost frontal" views were included in our study sample. For artistic reasons, in fashion photography “standardized frontal views” are unlikely to be found. Hence, we had to rely merely on a visual assessment i.e. whether the photography was frontal view or not. Please also see our response to your concern no. 2 and to our response to Reviewer #1, concern no. 1.

4. I didn't see the clinical significance in this study other than consideration for bracket positioning and reflecting patients perception.

Our response: Thank you for your comment! As included in the study’s title "should aesthetic perception influence bracket placement?", this was the aim of our investigation. Our results point out the significance for individualized treatment (at least for aesthetic reasons) that might include deviation from commonly used bracket positioning protocols.