

Commentary on: How Does Wearing a Facecover Influence the Eye Movement Pattern in Times of COVID-19?

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How we see ourselves can be greatly affected by external influences. For instance, we recently witnessed the “selfie effect,” and now we encounter the “zoom” and “mask” effect.^{1,2} Specifically in regard to the mask, it has the potential to produce a hyperawareness of the periorbital region. The contribution by Frank et al, seeks to examine how wearing a facemask may influence facial analysis when the face is partially covered.³ As appropriately indicated, the conclusion that the periorbital area is viewed longer when a facecover is present is not surprising and expected a priori. Unfortunately, the conclusion is limited to this finding, and the clinical relevance remains to be determined.

From our prior research, we know that the signs of facial aging draw the observers’ visual attention and that surgical intervention alters this region-specific focus.⁴ Excluding a facecover, we know the eyes represent a key area of fixation for the facial triangle (eyes, nose, mouth). As evident in the exposure photograph shown in Figure 1, a limited amount of time is spent in the facial regions covered by a mask. This is also illustrated by the authors finding that even without a mask, the facial region with the longest duration of stable eye fixation and greatest count of eye fixations is the periorbital region. Since other areas, such as the lower face and neck, have been excluded by mask wearing dwell time must be increased on the periorbital area by exclusion.

Potentially supporting the authors argument are the findings of Chandawarkar et al, who found an increase in search volume of the phrases “forehead,” “tired eyes,” and “dark circles” using google trends at the beginning of the COVID-19 pandemic.⁵ However there are endless reasons for a transient increase in these search terms and using this to support an increased interest in periorbital rejuvenation would be a significant leap. Coupling these findings with data that patients are now more interested in periorbital procedures due to the mask would significantly strengthen the authors’ argument.

Eye tracking technology has generated a multitude of investigational avenues for the plastic surgeon. In the current study, it would be revealing to have more defined areas of interest within the periorbital region. For example, does the increased time spent focused on the periorbital region mean observers look more at the forehead, brow position, eyelid shape, or a non-cosmetic priority such as the iris? In the authors heat map, it appears more time may have been focused on the ear in the masked image, potentially representing another interesting conclusion (however the left ear is more exposed in the unmasked version). It has been noted that wearing a mask that loops around the ears can make or give the feeling the ears are more prominent. Yet, critical to this discussion of facial attention allocation is the consideration of significance. Even if there is an increase in periorbital attention from those around you, is there truly an increase in self-identified markers of age in this region? Furthermore, when a patient is getting ready in the morning (looking in the mirror) or in consultation with a plastic surgeon the facemask is removed and the entire face is examined, making the increase periorbital attention a mute point.

Lastly, it is important to consider the potential cultural differences, both in observers and individual preferences. Interacting with others wearing a mask or facecover was commonplace in

some regions prior to the era of COVID-19. It is possible that in places such as the United States, the novelty of mask usage has caused a different effect. Maybe the mask is the primary focus in regions where it is unfamiliar, and in others the mask is not seen at all due to its conventionality. Furthermore, it is possible that the presence of a design on the mask material or words on a mask would actually draw attention away from the periorbital region. Likewise, it would be informative to see how wearing a facemask affects one's apparent age (a visual estimation of age).⁶ Does wearing a mask actually conceal many of the tell-tale signs of aging?

Interestingly, with the entire lower face covered with a mask, all facial non-verbal communication is confined to the upper face. However, as the prime regions targeted by neurotoxin, we may be inhibiting the only remaining uncovered emotional indicators. For instance, a patient who is photographed while wearing a mask with limited upper facial movement may be perceived as not happy/smiling given the lack of visible expression. Therefore, it is worth discussing and considering this effect during this new period of universal public mask practice.

All things considered, wearing a facecover does have several potential implications for the facial aesthetic plastic surgeon. By covering the lower two-thirds of the face, the upper third is consequently emphasized. The authors should be applauded for this timely and thought-provoking endeavor. However, a true clinical effect on practice remains to be determined and assessed.

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REFERENCES

1. Ward, Brittany, et al. Nasal distortion in short-distance photographs: the selfie effect. *JAMA Facial plastic surgery*. 2018;20(4): 333-335.
2. Cristel, Robert T., et al. Evaluation of selfies and filtered selfies and effects on first impressions. *Aesthet Surg J*. 2021;41(1): 122-130.
3. Frank K, Schuster L, Alfertshofer M, Baumbach SF, Herterich V, Giunta RE, Moellhoff N, Braig D, Ehrl D, Cotofana S. How Does Wearing a Facecover Influence the Eye Movement Pattern in Times of COVID-19? *Aesthet Surg J*. 2021 Mar 8:sjab121. doi: 10.1093/asj/sjab121. Epub ahead of print.
4. Frautschi RS, Dawlagala N, Klingemier EW, England HS, Sinclair NR, Zins JE. The Use of Eye Tracking Technology in Aesthetic Surgery: Analyzing Changes in Facial Attention Following Surgery. *Aesthet Surg J*. 2020;40(12):1269-1279.
5. Chandawarkar A, Jenny H, Kim R. 2021. Data-driven insights on the effects of COVID-19 on aesthetics: part I (passive analysis). *Aesthet Surg J*. 2021;41(3):NP65-NP74.
6. Frautschi RS, Duraes EF, Tadisina KK, Couto RA, Zins JE. Apparent age is a reliable assessment tool in 20 facelift patients. *Aesthet Surg J*. 2018;38(4):347-356.

Figure Legend

Figure 1. Exposure photograph of a 71-year-old female patient based on 25 observers demonstrating the limited facial area of prime inspection.

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Figure 1

