- **Make a face! Implicit and explicit measurement of facial expressions elicited by orange juices using face reading technology**

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Abstract:
This study examined consumers' facial reactions elicited by the flavor of orange juice products using an implicit and an explicit measurement approach. The aims of this work were (a) to examine whether facial expressions measured with the Noldus FaceReader technology are a sufficiently accurate measure for differentiating between more or less differing orange juice samples, (b) to elucidate the relation between implicit and explicit facial reactions elicited by orange juices, and (c) to investigate whether implicit and/or explicit facial reactions were able to explain introspective liking ratings on hedonic scales.

Different orange juices, including diluted syrup, nectar, 100% juices and not-from-concentrate (NFC) juice, were used as samples. Naive consumers were recruited at the University. In the implicit approach, the volunteers were not informed that they were video-recorded and their unintentional, automatic facial reactions during and after tasting the different samples were analyzed with Face Reader 4 (Noldus Information Technology, Wageningen, The Netherlands). FaceReader 4 distinguishes between seven facial reaction patterns, representing six basic emotions (angry, happy, disgusted, sad, scared, surprised) and neutral. In the explicit measurement experiment, subjects were asked to rate the sample with an intentional facial expression, which was recorded and then characterized by FaceReader as well.

Both, implicit and explicit measurements showed significant differences between facial expressions elicited by the different samples. The explicit measurement reflected the introspective liking ratings well. Especially "happy" and "disgusted" showed a high correlation with liking and were good indicators for liked and disliked samples, respectively. In the implicit measurement experiment, on the other hand, "happy" was no discriminator; instead "neutral", "angry" and "disgusted" explained the introspective liking rating well. However the discrimination between samples was better in the explicit than in the implicit condition.

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