Application of Automated Facial Expression Analysis and Qualitative Analysis to Assess Emotional and Descriptive Responses to Off-Flavors in Milk Beverages

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Materials and Methods

- Intensified dairy solutions were prepared using 2% milk using off-flavors from Clark, S., Costello, M., Drake, M., and Bodyfelt, F., The Sensory Evaluation of Dairy Foods, 2nd Ed.
- Panelists (n=49) evaluated the respective samples for hedonic liking (9 point scale) and were video-recorded for AFEA analysis.
- Videos were evaluated for emotional response using continuous analysis setting (Intensity Scale: 0=not expressed to 1=fully expressed).
- For AFEA analysis, sequential paired nonparametric Wilcoxon tests were performed between control (milk) and treatments based on the 30 Hz AFEA sampling rate. Results were translated into time series graphs for 10 sec post-consumption.

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Significance and Conclusions

- Self-reported descriptive terms and emotions expressed through AFEA time series trends may assist in describing the impact of off-flavored milk products on milk acceptability.
- The methodology may aid with implicit and explicit consumer acceptability responses to provide further product insight and estimation of shelf-life quality.

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