


# Feature Papers in Sensory Analysis of Beverages

Laura Vázquez-Araújo <sup>1,2</sup> 

<sup>1</sup> BCC Innovation, Technology Center in Gastronomy, Basque Culinary Center, 20009 Donostia-San Sebastián, Spain; lvazquez@bculinary.com

<sup>2</sup> Basque Culinary Center, Faculty of Gastronomic Sciences, Mondragon Unibertsitatea, 20009 Donostia-San Sebastián, Spain

Sensory science is a young discipline that has proven to be very useful for the food and beverage industry, not only to guarantee the quality of the organoleptic properties of raw materials and processed foods/beverages, but also to increase the probability of the success of new developments, to understand consumer response and detect potential consumer niches, and to monitor competitors. The increase in demand for sensory services, and the need for new methods that provide quick and useful data to the beverages industry, has caused a significant rise in sensory-related research. The present Special Issue includes a collection of papers that provide an overview of the wide utility of sensory analysis to increase knowledge about the perception of the organoleptic properties of beverages; this Special Issue presents some methods that can be used to reach this objective. Because perception is influenced by the product features, the individual characteristics, and the consumption context, varied analytical methods need to be used to properly understand consumers' response to a beverage, some of them mainly focusing on the product composition, and other ones focusing on the characteristics of the people who drink the beverage.

Within the Special Issue, the study developed by Thibodeau & Pickering [1] aimed at understanding the response to ethanol combined with some associated taste and chemesthetic stimuli that could impact the perception of its sensory properties. These authors centered their research on the response to consumption of binary mixtures containing ethanol, but considered some individual characteristics (thermal taster status of the panelists) within the study variables. The focus was increasing knowledge on the perception of the organoleptic properties of the beverage, but they segmented the population depending on the thermal taster status to determine differences in sensitivity in regard of this segmentation. Results of this research showed the additive, suppressive, or synergistic effect of some sensory attributes when presented together, and how thermal tasters tended to be more responsive than thermal non-tasters.

A further step in understanding consumers' perception when drinking an alcoholic beverage is shown in the study reported by Pickering & Thibodeau [2], who examined self-reported dislike towards specific sensory attributes typically found in alcoholic beverages and tried to relate the responses with some personal characteristics. Again, the focus in this study was the consumer and how their personal characteristics can affect perception and acceptance, but the approach was completely different, and a survey was used to collect all data. This study showed a new way of capturing consumers' response to alcoholic beverages when a traditional approach was not possible (e.g., COVID-19 restrictions).

The rest of manuscripts included in the Special Issue represent three different aspects of sensory research. The study by Todd et al. [3] presented an investigation about preference on some of the extrinsic properties of wine (labeling and location). It is well-known that the extrinsic properties of foods can have a great impact on its choice, as well as influence perception of some of their intrinsic properties (e.g., the texture of the container can affect the perceived taste of the beverage it contains; Lago et al. [4]). During their research, Todd et al. [3] demonstrated that different label designs were chosen by different



**Citation:** Vázquez-Araújo, L. Feature Papers in Sensory Analysis of Beverages. *Beverages* **2022**, *8*, 37. <https://doi.org/10.3390/beverages8030037>

Received: 1 June 2022

Accepted: 9 June 2022

Published: 24 June 2022

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2022 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

consumer groups, suggesting some ways of communicating the product properties to make it attractive to the local audience.

Rune et al. [5] published a review in which coffee, tea, beer, and wine pairing methods were revisited, discussing a total of 24 studies whose main aim was to find good food and beverage pairings. Food and beverage pairing is a complex topic that has been attracting the attention of sensory researchers in recent years, not only because foods and drinks are actually consumed together, but also because of specific pairings could be used to design experiences which modulate consumption of targeted foods or ingredients (e.g., enhancing a sensory specific satiety). Planning a study that involves food and beverages pairing could be a difficult task; the review included in the present Special Issue could be very useful, for it summarizes the current status of the matter, lists the different methods used for pairing, and it could help researchers choose the most suitable method or experimental design.

Finally, to wrap up the Special Issue, a manuscript detailing a novel sensory analysis technique has been included. Iobbi and Tomasino [6] used an adaptation of Polarized Projective Mapping that included fruit standards as fixed poles, followed by flash profiling, to investigate fruitiness perception of white wines. The development of fast sensory analysis techniques is almost mandatory to meet the demand of the food and beverages industry, which requires quick responses that do not involve the investment of many resources. The study included in this issue is an example of one of these recently developed fast techniques, and it also shows some interesting data on the predominant aromas of varietal white wines.

The different contributions included in this Special Issue have shown the complexity of studying the sensory properties of beverages, not only because of the need of considering the features of the product (intrinsic properties such as taste, aroma, mouthfeel, etc.; the extrinsic properties such as label information, price, packaging, etc.), but also the characteristics of the person who will be drinking it (e.g., cultural background, genetics), and the context of consumption (e.g., in combination with a food).

**Author Contributions:** Conceptualization, writing-original draft preparation, review and editing, L.V.-A. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

1. Thibodeau, M.; Pickering, G. Perception of aqueous ethanol binary mixtures containing alcohol-relevant taste and chemesthetic stimuli. *Beverages* **2021**, *7*, 23. [\[CrossRef\]](#)
2. Pickering, G.J.; Thibodeau, M.K. Self-Rated aversion to taste qualities and the prop taster phenotype associate with alcoholic beverage intake and preference. *Beverages* **2021**, *7*, 37. [\[CrossRef\]](#)
3. Todd, M.J.; Kelley, K.M.; Hopfer, H. USA Mid-Atlantic Consumer Preferences for Front Label Attributes for Local Wine. *Beverages* **2021**, *7*, 22. [\[CrossRef\]](#)
4. Lago, M.; De la Rosa, J.; Vázquez-Araújo, L. Using tactile stimuli to enhance sweet perception in iced tea samples. *J. Sens. Stud.* **2020**, *36*, e12612. [\[CrossRef\]](#)
5. Rune, C.J.B.; Münchow, M.; Perez-Cueto, F.J.A. Systematic Review of Methods Used for Food Pairing with Coffee, Tea, Wine, and Beer. *Beverages* **2021**, *7*, 40. [\[CrossRef\]](#)
6. Iobbi, A.; Tomasino, E. Adapting polarized projective mapping to investigate fruitiness aroma perception of white wines from Oregon. *Beverages* **2021**, *7*, 46. [\[CrossRef\]](#)