Pangborn 2019 | 13th Pangborn Sensory Science Symposium

28 July – 1 August 2019 • Edinburgh International Conference Centre (EICC) • Edinburgh, Scotland

Cross-modal perception between soundscape and taste contributes to liking of coffee

Mari Sandell[1], Anu Hopia[1], Mara Galmarini[2,3], Sari Puputti[1], Per Moneeo[4], Iréne Moneeo[4], Bruno Mesz[5]

[1]University of Turku, Functional Foods Forum, Finland [2]Facultad de Ingeniería y Ciencias Agrarias, UCA, Argentina [3]Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina [4]Moneeo, Sweden [5]Universidad Nacional de Tres de Febrero, Argentina

mari.sandell@utu.fi

BACKGROUND

Cross-modal interactions where sensory modalities intertwine into multimodal perception are important for food liking and selection. Sound and hearing are known to affect taste perception of foods and drinks. This study focuses on the effect of composed music/soundscapes on taste perception and liking of coffee drink among adults.

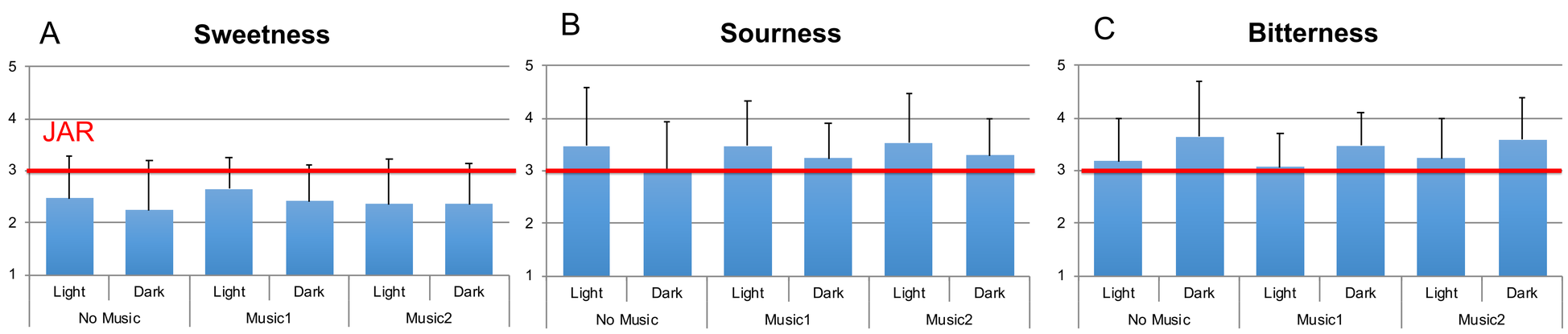
Our hypothesis was that coffee perception can be modified with external sensory stimuli (music).

METHODOLOGY

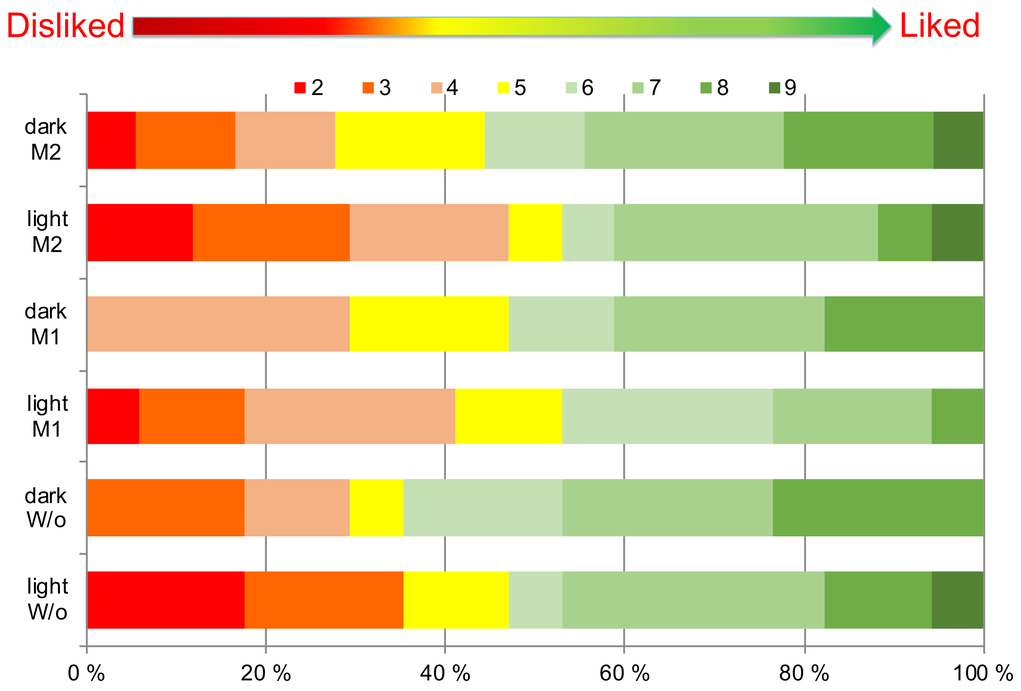
- 2 coffee samples: Light = light roast, dark = dark roast (Juhla Mokka, Paulig, Finland)
- 2 music samples M1 = sweet, M2 = bitter (composed by Duo Moneeo, Sweden)
- 17 volunteer study participants (Finnish and Spanish)
- 9-point labelled hedonic scale (1-9)
- Intensity of bitterness, sourness and sweetness (1 = too mild, 3 = Just about right (JAR), 5 = too strong)

RESULTS

Perceived (mean + sd) intensities in sweetness (A), sourness (B) and bitterness (C). The light coffee was more sour than the dark coffee, while the dark coffee was more bitter than the light coffee. JAR = just about right intensity.



The study was conducted in a multimodal lab (Functional Foods Forum, University of Turku, Finland) in controlled environment. A photo of cafeteria in a media wall (80 inches) and adjusted illumination enabled creation of a more genuine atmosphere. 2 soundscapes were applied.



Based on the hedonic scores the light coffee with sweet music (M1) was in general liked less than other combinations. The most positive responses were for the dark coffee with sweet music.

The music samples were composed to express “sweet" (M1, clean and harmonic sounds) and "bitter" (M2, rough and disharmonic sounds).

The most common Finnish coffee brand Juhlamokka (Light and Dark) samples

CONCLUSIONS

1) Soundscape modified the coffee perception, sweet music had a stronger effect than bitter music.

2) Liking of lighter roast coffee sample decreased with music more than liking of dark coffee. In general participants preferred the dark coffee.

ACKNOWLEDGEMENTS

This study was supported by the Academy of Finland (MS309408). Authors are grateful to all the volunteer study participants.