Implementing immersive technologies in consumer testing: Taste perception and liking in a laboratory, immersive simulated café and real café

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BACKGROUND

- In traditional product tests, panelists evaluate products in isolated sensory booths where everything is as standardized as possible and non-product contextual information is intentionally minimized. This is completely different from real-life situations in which you drink or eat a product together with other people[1,2].
- Whereas sensory booths enable a strict control over product testing, they are not representative of what happens in the real world and do not take the role of context in shaping product perceptions and acceptance into account. A solution would be to simulate the real-life context in the laboratory via the use of immersive technologies[3].
- Initial research indicates that the use of immersive technologies may improve the predictive validity and reliability of liking scores in consumer testing[4]. However, how immersive technologies impact food taste perception is not known.

AIM

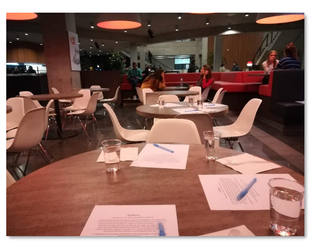
- This study investigated taste perception and liking of soups in a laboratory context, immersive simulated context and real-life context.

DESIGN

- Forty-five Dutch participants (18-60 years of age) took part in three tasting sessions, each in a different context: 1) laboratory, 2) immersive context depicting a simulated café using audiovisual cues, and 3) real café.
- Participants tasted each time four tomato soups varying in salt content: 1) regular soup (340 mg Na/100 ml prepared soup), 2) soup with 25% extra salt (425 mg Na/100 ml), 3) soup with 50% extra salt (510 mg Na/100 ml), and 4) a duplicate of the regular soup to check the acuity of the subjects.
- Taste perception, liking and engagement were measured.

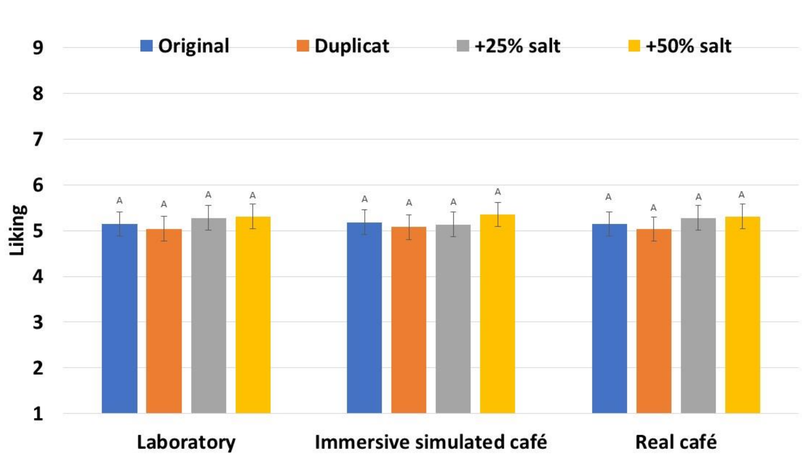
Laboratory

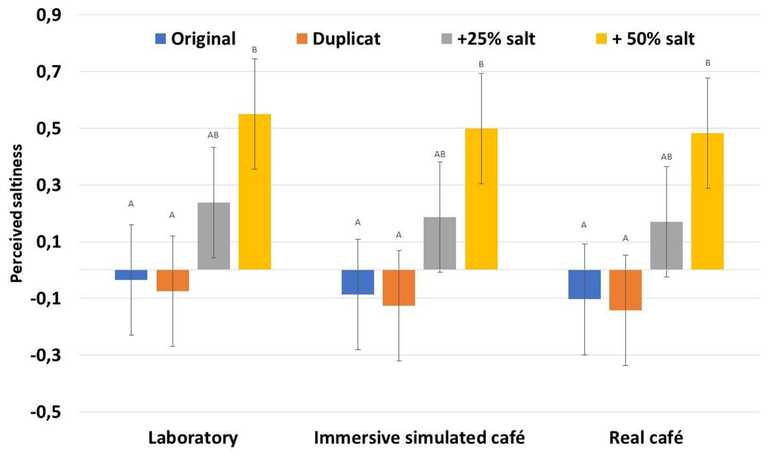
Simulated café

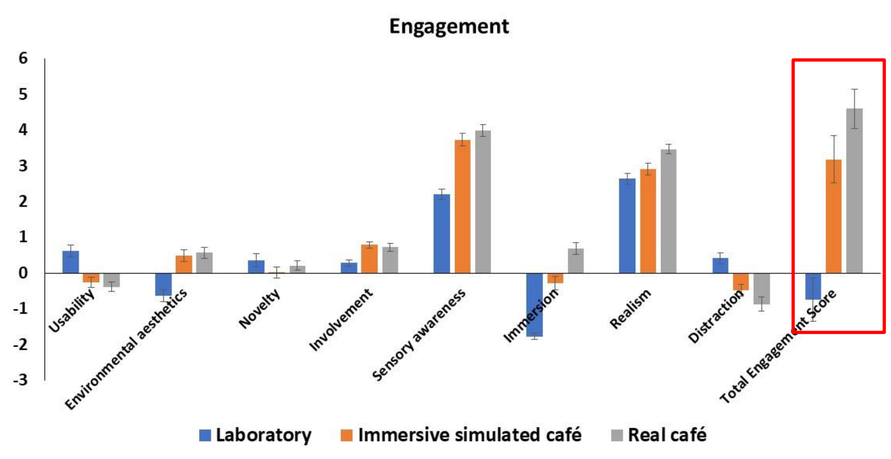


Real café

RESULTS







- There were no differences in liking nor taste perception between the three contexts ($p>0.05$).
- In addition, participants felt most engaged in the real café and simulated café, and least in the laboratory ($p<0.05$).

CONCLUSION

- These findings suggests that the effects of test context found in earlier studies may be related to factors other than the test context itself, e.g., consumer population, portion size, social context, time of day.
- This study provides new insights on the use of immersive technologies to better understand food intensity and liking in different contexts.

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