

Does a high preference for salty stimuli reflect into less healthy eating food choices?

Cristina Proserpio¹, Sara Spinelli², Camilla Cattaneo¹, Monica Laureati¹, Caterina Dinnella², Erminio Monteleone², Ella Pagliarini¹

¹Sensory & Consumer Science Lab (SCS_Lab), Department of Food, Environmental and Nutritional Sciences (DeFENS), University of Milan, 20133 Milan

²Department of Agricultural, Food, Environmental and Forestry (DAGRI), University of Florence, Florence, Italy

It is well known that the excessive salt consumption has negative health consequences, but this ingredient in food formulations contributes consumers preferences and choices. The relationship between preference for salty foods and less healthy eating patterns is actually unclear.

The aim was to investigate whether subjects showing a higher preference for salty stimuli have generally a less healthy eating preferences not only for foods that are saltier and richer in fat but also sweeter. To this purpose liking for a model food (bean purées added with increasing concentrations of sodium) was evaluated by 395 subjects to identify groups of consumers who respond differently to salty stimuli. Salty and umami tastes as well as overall flavor intensities were also evaluated in the purée samples. The IT-TASTE choice questionnaire (food pairs selected by presence/absence of salty, fatty, or sweet tastes) was used to assess consumers' eating behavior.

According to cluster analysis based on liking scores, one group of subjects (Cluster 1; Salt_likers) generally liked the bean purée samples with higher sodium concentrations significantly more than those belonging to Cluster 2 (Salt_dislikers). The Salt_dislikers and specifically females subjects, perceived all the sensory properties (salty and umami tastes and overall flavor) as significantly more intense than the Cluster 1. Significant differences between the two clusters were found for food preferences: Salt_dislikers preferred the 'healthier' options (food items with less fat and/or salt) more than the Salt_likers when the choice was between items less/more salty and fat, and only in few cases also between items less/more sweet and fat.

In conclusion, these results suggest that subjects preferring salty stimuli generally make less healthy food choices and the segmentation approach is useful in identifying individuals that are more at risk of unhealthy food choices (not only related to salt consumption).