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Personality traits and gender influence liking and choice of food pungency

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The present study was aimed at exploring the role of personality traits and taste responsiveness on liking and choice of pungency in foods. As part of the Italian Taste project, data were collected on 1225 subjects (60% females, 20-60 yrs). Subjects were characterised for demographics, responsiveness to PROP and sensitivity to reward (SR), punishment (SP) and disgust (SD). They evaluated the intensity of burning, astringency and basic tastes in water solutions, then evaluated liking and intensity (burning, sourness, sweetness, overall flavour) in a series of four samples of tomato juice, each spiked with capsaicin at different concentrations (0.3; 0.68; 1.01; 1.52 mg/kg). A choice index for spicy food was calculated as a sum of the choices of the spicy option using a questionnaire developed to evaluate preferences within a pair of food items.

A significant relationship was found between frequency of chili consumption and choice. Males (M) and females (F) differed for frequency of chili consumption (M: 30.2%; F: 45.8% chili non-users) and were studied separately. Age was not associated with frequency of chili consumption. Responsiveness to PROP was found to be positively correlated to perceived burn intensity.

ANOVA models showed that High-SR (both M and F) and Low-SD (F) liked the spiciest samples significantly more than, respectively, Low-SR and High-SD. Low-SD perceived lower burning, sourness and overall flavour, while this was not observed in High-SR.

PLS Regression models were used to gain a deeper understanding of the factors that affect spicy food choice. Choice was positively correlated with liking, and negatively with burn intensity and SD. In addition, choice was negatively correlated with SP in F and positively with SR in M.

Our results confirmed that many factors interplay in spicy food liking and choice and they highlight the role played by different personality traits in F and M.

Keywords: pungency, personality traits, perceived intensities, liking and choice