

Title:**The development of taste preferences****Authors & affiliations:**

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Taste preferences is an important determinant for the real-life food choices of children. Nevertheless, how taste preferences develop within the preschool years is not clear. The present study aimed at understanding how taste preference and sensitivity develop in the pre-school years, and how the two relate to each other. To expand on the existing literature regarding taste preferences done in cross-sectional studies, we employ a longitudinal design from age four to age six.

One hundred and thirty one children were tested in their kindergartens during the spring of 2015, 2016, and 2017. Each year, the children performed paired comparisons tasks with taste vs. water dilutions at four levels. The stimuli consisted of the five basic tastes: Sweet (sucrose), sour (citric acid monohydrate), umami (monosodium glutamate), salty (sodium chloride), and bitter (quinine hydrochloride dehydrate). To investigate taste preferences, the children each year performed ranking by elimination procedures. The taste carriers were fruit-flavored beverages, varying in either in sugar content (4% vs 12% vs 18%), in level of citric acid (0.13% vs. 0.21% vs. 0.35%) or in the bitter component isolone (0.001% vs. 0.002% vs. 0.003%), and chocolates (45% vs. 55% vs. 65% cocoa).

Results show a developmental increase in preference for sweetness, and stability in preference for bitterness and sourness. In taste sensitivity, there was different developmental trajectories, and the children showed an increase in sensitivity for sourness and saltiness, decrease for sweetness, and stability for umami and bitterness. There was a small relationship between sweet sensitivity and preference, as well as bitterness sensitivity and preference. The different basic tastes did not follow the same general trends, neither for sensitivity nor for preference. Thus, it appears that the development of basic taste preferences does not solely rely on the development of basic taste perception.