

Hedonic Response to Fish in Preschoolers

G. Donadini, M. D. Fumi, S. Porretta

Abstract

Preschoolers' hedonic response to fish dishes was investigated by actual tasting in a natural environment of consumption. Cod with tomato sauce (CTS), plaice with tomato sauce (PTS) and oven-baked breaded plaice (OBBP) were scored during school lunch by 90 preschoolers on a 5-point nongender facial scale. Liking varied significantly ($P < 0.001$) across dishes. CTS and OBBP were highly appreciated and significantly preferred to PTS, which was disliked.

Cluster analysis identified four groups of children with homogeneous preference patterns. Nearly 4 children out of 10 equally liked OBBP and CTS, and disliked PTS. Nearly one child out of three equally liked all the dishes. One child out of seven preferred OBBP to fish dishes with tomato sauce. One child out of 10 preferred CTS to dishes with plaice.

Acceptance was related not only to objective sensory properties of fish dishes but also on background characteristics of the children. Familiarity with the fish dish, the reported liking of the target fish types as well as the neophobic status of children modulate the hedonic response to fish dishes.

For nearly 6 children out of 10, liking is positively related to fish odor, fish flavor and greasiness, whereas it is negatively related to softness, jelly-like texture, fast melting and falling apart easily textures. For one child out of seven, liking is positively related to bread-related attributes and negatively with tomato-related attributes. For 1 child out of 10, liking is negatively related to tomato-related attributes and fish odor.

Practical Applications

Fish is a food rich in valuable nutrients but it is scarcely appreciated by children. Therefore, it is important to identify the drivers of liking for seafood in natural environments of consumption by actual tasting to understand what is to be done to control fish acceptance and formulate more energy-balanced and sensory-appealing meals. The identification of specific sensory characteristics that drive preference in subgroups of preschoolers with radically different sensory preferences opens up ways to engineer specific and more versatile interventions to promote fish consumption in preschoolers.

