

[P1.6.009]

Children's preference and ability to identify flavor: "The flavor of my smoothie, its color, or the color of its packaging?"

B. Piqueras-Fiszman^{*1,2}, P. García Segovia¹, R. Deliza³

¹*Universitat Politècnica de Valencia, Spain*, ²*University of Oxford, UK*, ³*Embrapa Food Technology, Brazil*

The impact of the color of a food, and of its packaging on adult consumers' expectations and perception of the food has been widely studied. However, to date, the impact of a packaging's color (together with the color of the food or drink itself) on children's flavor perception and liking has not been investigated. This topic deserves attention, since it is known that children are strongly influenced by irrelevant dimensions in other sensory modalities (such as vision). Importantly, nowadays it is a usual practice for parents to "co-shop" food with their children, yielding to their purchase requests around 50% of the time.

This research aimed to investigate if children's ability to identify a smoothie's flavor is influenced by its color and by the color of its packaging (both in congruent and incongruent color-flavor conditions). If so, we also aimed to explore which color cue they rely more upon, and how this bias influences their liking ratings.

Samples of smoothies colored brown, yellow, and pink (flavored chocolate, banana, and strawberry, respectively) were given to a group of Spanish children (7-10 y; n=100) in balanced random order. For each of the three samples, they were asked: 1) to name the flavor (freely); 2) how familiar they were with the flavor (5-pt scale); and 3) to rate their liking of the flavor (9-pt smiley scale). Then, they were told the flavor for their information.

In another session ten minutes later, the children were assigned to one of three conditions defined by the color of the smoothie packaging: brown, yellow, and red. They were each given nine samples of smoothie (20 ml) (3x3 color-flavor combinations) in balanced order. For each sample, they were asked again the three items as before.

Most children were influenced more by the color of the drink than by the color of the packaging, mainly for strawberry and banana flavors, and a high percentage could not identify chocolate flavor (when colored incongruently). Furthermore, analyses of variance revealed that when they thought that they were familiar with the identified the flavor, regardless of the flavor identified, their liking ratings were significantly higher.

This study contributes to the knowledge on crossmodal interactions involving extrinsic factors and their impact on children's food acceptance. The results could be relevant for food developers and packaging designers, since they highlight a conjoint influence on children's ability to identify flavors and on their liking of foods.

Keywords: Children, Flavor perception, Color, Cross-modal interactions