

**Repetition counts: repeated exposure increases intake of a novel vegetable in UK pre-school children compared to flavour-flavour and flavour-nutrient learning**

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British Journal of Nutrition (2013), 109, 2089-2097

<http://dx.doi:10.1017/S0007114512004126>

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**ABSTRACT**

Children are not consuming sufficient amounts of fruits and vegetables in their habitual diet. Methods derived from associative learning theories could be effective at promoting vegetable intake in pre-school children. The objective of the present study was to compare the effectiveness of different learning strategies in promoting the intake of a novel vegetable. Children aged between 9 and 38 months were recruited from UK nurseries. The children ( $n$  72) were randomly assigned to one of three conditions (repeated exposure, flavour— flavour learning or flavour—nutrient learning). Each child was offered ten exposures to their respective version of a novel vegetable (artichoke). Pre- and post-intervention measures of artichoke purée and carrot purée (control vegetable) intake were taken. At pre-intervention, carrot intake was significantly higher than artichoke intake ( $P < 0.05$ ). Intake of both vegetables increased over time ( $P < 0.001$ ); however, when changes in intake were investigated, artichoke intake increased significantly more than carrot intake ( $P < 0.001$ ). Artichoke intake increased to the same extent in all three conditions, and this effect was persistent up to 5 weeks post-intervention. Five exposures were sufficient to increase intake compared to the first exposure ( $P < 0.001$ ). Repeated exposure to three variants of a novel vegetable was sufficient to increase intake of this vegetable, regardless of the addition of a familiar taste or energy. Repetition is therefore a critical factor for promoting novel vegetable intake in pre-school children.