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CROSS-MODAL INTERACTIONS FOR CUSTARD DESSERTS DIFFER IN OBESE AND NORMAL WEIGHT ITALIAN WOMEN

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Abstract

The effects of variation in odors and thickening agents on sensory properties and acceptability of a model custard dessert were investigated in normal weight and obese women. Subjects rated their liking and the intensity of sensory properties (sweetness, vanilla and butter flavors, and creaminess) of 3 block samples (the first varied in vanilla aroma, the second varied in butter aroma and the third varied in xanthan gum). Significant differences were found in acceptability and intensity ratings in relation to body mass index. The addition of butter aroma in the custard was the most effective way to elicit odor-taste, odor-flavor and odor-texture interactions in obese women. In this group, butter aroma, signaling energy dense products, increased the perception of sweetness, vanilla flavor and creaminess, which are all desirable properties in a custard, while maintaining a high liking degree. Understanding cross-modal interactions in relation to nutritional status is interesting in order to develop new food products with reduced sugar and fat, that are still satisfying for the consumer. This could have important implications to reduce caloric intake and tackle the obesity epidemic.

Keywords: obesity, food liking, sensory perception, brain integration

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