

Project title: Sensing your food; does sensory perception alter healthy eating behaviour in children?

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Function: Associate Professor

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Proposal (250 words):

Introduction:

Varied food intake, with enough fruits and vegetables, is very important for a healthy life and the prevention of chronic illness. Many children are however neophobic, and reject novel foods, particularly fruits and vegetables. We propose a new model, which states that sensory hypersensitivity contributes to food rejection. To some children, foods are more sour, more bitter, smell stronger or feel more slimy. This hypersensitivity is caused by lower perceptual thresholds and slower habituation to new stimuli. Our model will be tested in a series of empirical studies and an intervention examining different multisensory exposure techniques.

Hypothesis and Objectives:

There are two objectives:

1. To establish whether differences in children in sensory threshold perception and habituation rates in the modalities of taste, smell and touch are associated with fruit and vegetable acceptance.
2. To establish whether sensory thresholds can be altered using habituation techniques, thereby increasing fruit and vegetable acceptance.

Setting and Methods:

Objective 1 is tested by several experiments, using well established sensory threshold tests, psychophysiological responding and standardised taste tests. The results will be used to design an intervention to increase fruit and vegetable acceptance, which will be tested in high food neophobic children (objective 2).

Impact:

The results will be of interest to parents and educators, health professionals and policy makers. Societal health impacts will be achieved through a greater understanding of healthy food rejection, and we will generate clear strategies and interventions. This will have economic advantages through the improvement of health through diet.

Requirements candidate: Highly motivated student with good English communication skills and proactive and resolute attitude.

Keywords: Healthy diet, lifestyle intervention, childhood, picky eating, food neophobia, learning, habituation, perceptual threshold, sensory sensitivity

Top 5 selected publications:

1. **Nederkoorn, C.**, Theißen, J. Tummers, M., & Roefs, A. (2018). Taste the feeling or feel the tasting: Tactile exposure to food texture promotes food acceptance. *Appetite*, *120*, 297-301.
2. **Nederkoorn, C.**, Jansen, A., & Havermans, R. C. (2015). Feel your food. The influence of tactile sensitivity on picky eating in children. *Appetite*, *84*, 7-10.
3. Werthmann, J., Jansen, A., Havermans, R., **Nederkoorn, C.**, Kremers, S., & Roefs, A. (2015). Bits and pieces. Food texture influences food acceptance in young children. *Appetite*, *84*, 181-187.
4. **Nederkoorn, C.**, Dassen, F.C.M., Franken, L., Resch, C., & Houben, K. (2015). Impulsivity and overeating in children in absence and presence of hunger. *Appetite*, *93*, 57-61.
5. **Nederkoorn, C.**, Coelho, J., Houben, K., Guerrieri, R., Jansen, A. (2012). Specificity of the failure to inhibit responses in overweight children. *Appetite*, *59*, 409-413.