HabEat

Determining factors and critical periods in food habit formation and breaking in early childhood: a multidisciplinary approach

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Model for identifying key behavioural mechanisms in food habit formation

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Dissemination level: CO (confidential)

As some of the data contained in this report have not yet been submitted for publication, we changed the dissemination level from Public to confidential until the publications will be accepted. The summary is Public. The present version will remain confidential after publication. However, a public version will be prepared containing the abstracts and the links to the related papers.

Executive summary

Despite known health benefits of eating vegetables most children do not consume the recommended daily amounts of vegetables. Many children dislike vegetables and in some families, vegetables are rarely offered. Thus, for some children eating traits such as food fussiness preclude acceptance or even tasting these foods; whilst for others the family diet is low in vegetable content, therefore exposure is low. It is clear that eating habits are formed early in life and are shaped as a function of experience, exposure and the interaction between child eating traits and caregiver environment. Therefore, the current study investigated attributes of the child, the caregiver (predominantly mothers) and their feeding practices measured by questionnaires in relation to food habit formation indicated by amount eaten and the slope of change in amount eaten using objective measures. Questionnaire and intake data were collected across 4 countries and five experiments (518 children aged between 4 – 46 months) from the UK, Denmark, France and the Netherlands. The data were collated and analysed using structural equation modelling (SEM). The models were developed from existing theory to test which behavioural and trait measures were likely candidates to predict initial acceptance of a novel and familiar vegetable as well as the slope of change in intake over time as a proxy of food preference formation. Variables entered into the model included maternal education, maternal vegetable intake, maternal neophobia, breastfeeding, age of complementary feeding, child age and child eating behaviour traits. Three models were tested and found to be a satisfactory fit to the data. The most significant predictor of initial vegetable intake was food avoidance (a composite of food fussiness and satiety responsiveness traits), followed by the age of the child. Food avoidance predicted lower intake of familiar and unfamiliar vegetables; however, food avoidant children demonstrated a steeper gradient of learning to accept a novel vegetable. Younger children consumed more vegetables and had a steeper gradient of learning then older children; however it is hypothesized that food avoidance may mediate the association between age and intake. The regression weights indicate that food avoidance predicted intake of an unfamiliar vegetable better than a familiar vegetable. Other factors which were indirect predictors included maternal education, maternal neophobia and age of complementary feeding, with more educated mothers reporting lower food avoidance, and later weaning. Unexpectedly, breastfeeding and maternal vegetable intake predicted neither vegetable intake, nor learning. In agreement with previous research child age and eating traits predict acceptance of vegetables and despite food avoidance tendencies, learning can occur indicating that repeated exposure is successful even in children who are fussy eaters.