University of Birmingham

Children and taste research

Thanks for your interest in the work of Dr Jackie Blissett and her team, featured on the BBC's Horizon documentary on Taste.

We hope you find this further information useful and interesting.

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The relationships between children's taste, eating and sensory processing

Children live in a different sensory world to adults. Their tastes are experienced more intensely. These 'tastes' are not just physiological - taste is a complex psychological phenomenon. Whilst some children will be very sensitive to tastes and textures of foods, others are less sensitive. Some children also have high levels of neophobia - a fear of new foods - and this tendency tracks into adulthood, predicting relatively fussy eating and a narrower dietary range in adulthood. These children tend to be more difficult to feed and are certainly more reluctant to try new foods, particularly fruit and vegetables.

This is likely to be because, for those children, they have more unpleasant taste experiences when they do try new foods, and therefore they gradually become more suspicious of new taste experiences. Also, their negative reactions to trying new foods are likely to make their parents persist less in offering new foods. This is a problem because exposure (seeing, smelling, tasting a new food) is critical in determining acceptance of foods. Foods that are intensely disliked are less likely to be accepted over time, but for the majority of foods that are somewhere in the 'middle of the road' of preference, a series of between 8-15 taste exposures in a relaxed, happy environment, usually means acceptance of that food into the diet. This may not apply however to children who have strong taste sensitivity.

How children's taste and eating behaviour develops and changes over time

All babies will fairly readily accept new tastes, which makes evolutionary sense. When babies turn into toddlers and become more mobile, it is not surprising to see a rise in neophobia- again which makes evolutionary sense- if a toddler is mobile and potentially further out of the watchful gaze of their caregiver, they need a mechanism that discourages them from ingesting potentially poisonous foods. Not eating things they haven't been given before helps to protect against that. Toxins are likely to be highest in plant matter and meats, which may also help to explain why vegetables are often rejected and why meats are close second at this stage. Sweet, starchy fatty foods are often beige, a colour which doesn't tend to indicate spoiling, and which tends to indicate good calorie sources. We don't see so much evidence of neophobia with bread, pasta, biscuits, sweets and cakes!

The feeding environment and parental feeding practices: tips for parents

The effects on children's food acceptance that parents can have are large. Right from the prenatal stage, babies are exposed to the diets of their mothers. Then, decisions about whether or not to breastfeed, and for how long, affect the variation in flavours that the baby receives, with breast fed babies receiving more variation in flavours that may then help them to accept a wider variety of foods later in life. The age at which weaning begins may also have an effect on children's willingness to try new foods. The availability of healthy foods in the house, and the frequency they are eaten by the parents, also matter. All of these factors appear to influence, in some small way, taste and food acceptance in infancy.

How parents manage temporary or longer term periods of fussy eating also has enormous potential to affect longer term eating. Very controlling and pressuring practices are associated with even greater reductions in willingness to try new foods and reduced choice of those foods on subsequent occasions. On the other hand having NO rules about trying new foods and being too permissive with regard to children's eating tends to result in children who consume fewer fruits and vegetables. Therefore feeding practices somewhere in the middle of these two are required- 'authoritative feeding':

- parents model intake
- prompt children to taste new foods but don't force them to eat
- positive emotional climate is present at the mealtime
- Using small rewards for trying new foods (e.g. a sticker, NEVER pudding) can help some children get over their initial reticence to try something new
- Exposure then takes place, which will gradually lead to acceptance, as long as the food is not intensely disliked by the child

There are some children though, for whom these practices are simply not going to work to induce them to try a new food and if they do taste it, they are more likely to find the taste quite unpleasant. For example, one of our studies showed that children who have very high levels of taste and smell sensitivity don't eat many fruits and vegetables even when their parents eat enormous amounts of the stuff. In these cases, it will probably take a long time before children accept such foods into their diets, in other words, when neophobia gradually tails off later in childhood, and when their sensory processing of taste results in less intensely negative consequences of tasting.

In summary, it's a bit about what you as a parent do, and a bit about your child's own make up that determines how much they are going to like and consume fruits and vegetables.

Further information

Enquiries about feeding or feeding problems

Dr Blissett and her team are not able to give specific feeding advice for individual children and families.

If you have concerns about your child's eating, please contact your health visitor, school nurse, or GP.

General advice about feeding and eating problems in toddlers and young children can be found on the **The Infant and Toddler Forum (https://www.infantandtoddlerforum.org/)** (the content of external sites is not the responsibility of the University of Birmingham).

Enquiries about taking part in our research

If you live within travelling distance of the University of Birmingham (B15 2TT) and would like to know more about taking part in our research studies in the Infant and Child Laboratory, we would love to hear from you.

Please contact us:

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or visit the **Infant and Child Laboratory website (/facilities/icl/index.aspx)**

More on the work of Dr Blissett and her team

Listen to a podcast of Dr Blissett talking about some of the research undertaken in her laboratory (MP3). (http://www.ideaslab.bham.ac.uk/MP3s/Dr_Jackie_Blissett_Podcast.mp3)

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