

Girls have superior sense of taste to boys

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How many taste buds have you got? As part of the large-scale experiment, pupils from all over Denmark had to color their tongue bright blue with fruit dye and count the number of taste buds in a certain section of the tongue. Pupils are from Amager Faelled School in Copenhagen, Denmark. Photo: Peter Willersted

New knowledge: Girls have a better sense of taste than boys. Every third child of school age prefers soft drinks which are not sweet. Children and young people love fish and do not think of themselves as being fussy eaters. Boys have a sweeter tooth than girls. And teenagers taste differently.

The findings of the world's largest study so far on the ability of children and young people to taste and what they like have now been published. The study was conducted jointly by Danish Science Communication, food scientists from The Faculty of Life Sciences (LIFE) at University of Copenhagen and 8,900 Danish schoolchildren.

In September, 8,900 schoolchildren from all over Denmark took part in a large-scale experiment conducted by Danish Science Communication and The Faculty of Life Sciences (LIFE) at University of Copenhagen. It is the first time that such a large-scale study has been done on the sense of taste of children and young people and what they like to eat.

One of the reasons why it was possible to include so many children and young people in the study was that the experiment itself was conducted in quite an unorthodox way: It was planned as a 'mass experiment' in conjunction with this year's natural science festival at Danish primary and secondary schools. All the participating groups of children were sent a complete kit of taster samples and very detailed instructions, and then conducted the experiment as part of their natural science classes. The various tests were designed to quantify the ability of children and young people to discover and recognise sweet and sour tastes at varying intensities, to establish which sourness or sweetness they prefer, how many taste buds they have and, finally, the children answered a number of questions on their eating habits and fussiness over food. And both pupils and teachers have taken the experiment very seriously: "What is most surprising is that the results are so clear and of such a high quality," says Bodil Allesen-Holm, MSc in Food Science and Technology, who is the scientific head of the project and head of the Sensory Laboratory at the Department of Food Science at LIFE. "The trends are very clear in all the answers from the many primary and secondary schools: the pupils and teachers have been very thorough and accurate."

According to Bodil Allesen-Holm, the results provide food for thought for both the food industry – and for parents: "It is quite clear that children and young people are very good tasters, and that there are bigger variations between them than most people would expect. There is, for example, a marked difference between boys and girls, and the ability of children to recognise tastes changes with age. So one could easily develop more varied food products and snacks for children and young

people. For example, it is quite clear that children do not necessarily prefer sweet things. According to the findings, healthy snacks could easily be developed for boys with slightly extreme and sour flavours."

"This experiment has focused on taste alone, while future studies will include more sensory aspects such as smells and appearance to provide a more all-round understanding of Danish children's preferences," says Wender Bredie, Professor of Sensory Science at the Department of Food Science at LIFE.

New facts about what children can taste – and what they like:

-- Girls are better at recognising tastes than boys

One of the many findings shows that girls are generally better at recognising tastes than boys. They are better at recognising all concentrations of both sweet and sour tastes. The difference is not dramatic, but it is quite clear. It is also a known fact that women generally have a finer sense of taste than men. "We also asked the pupils to count 'taste buds' or organs of taste on the tongue. However, the experiment showed that boys and girls have largely the same number of taste buds. So it would appear that what makes the difference is the way in which boys and girls process taste impressions," says Michael Bom Frøst, Associate Professor at the Department of Food Science at LIFE. According to the figures, boys need an average of approximately 10 per cent more sourness and approximately 20 per cent more sweetness to recognise the taste.

-- Every third schoolchild would prefer not to eat sweet things

Another sensational finding is that every third schoolchild would prefer non-sugary soft drinks. All the pupils did a blind test in which they were instructed to give scores to ten different variants of the same soft drink –

with varying sweetness and sourness. Surprisingly, as many as 30 per cent of the pupils preferred the variant which contained no sugar at all or very little. "This is new. In other words, soft drinks for children and young people do not always have to contain a lot of sugar," says Bodil Allesen-Holm. On the other hand, 48 per cent of the pupils just couldn't get enough: They gave top marks to the sweetest of the variants. "It may be because many pupils are quite used to drinking a lot of soft drinks and eating a lot of sweets," says Bodil Allesen-Holm.

-- Boys like it wild, girls prefer more muted flavours

Funnily enough, girls generally prefer flavours which are not too strong. Boys, on the other hand, tend to like the more extreme flavours. Boys also have a sweeter tooth than girls – most of the boys preferred the super sweet soft drink variety. And most boys also gave top marks to the sourest samples.

-- Yes, I like fish!

The study shows that when you ask the children about their likes and dislikes, they actually like fish. As many as 70 per cent of the pupils said they like fish. And you can safely give them exciting foods. As many as 59 per cent of pupils do not consider themselves to be fussy eaters, and this applies to both girls and boys.

-- The world becomes more sour and exciting for teenagers

It would appear that you can safely notch up a gear when it comes to food, drinks and snacks for teenagers. The study showed that their sense of taste changes noticeably: The ability to recognise tastes increases gradually with age, and the greatest shift is seen at 13-14 years when children become markedly more sensitive to sour tastes. At exactly the same time, their love of very sweet flavours starts waning. And it is here

too that many more declare they are not fussy eaters. Past studies have shown that children who like sour things tend not to be nearly as fussy as children who are not mad about sour foods. Those who prefer sour flavours are also more open to tasting new foods.

Source: University of Copenhagen

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