STOMACH WAITS PATIENTLY

Marlou Lasschuijt, a PhD candidate in the Human Nutrition and Health group, investigated whether and how signals from the mouth influence the production of digestive and satiety hormones in test subjects. 'Not all test subjects think: great, delicious strawberry gel!'

One in five Dutch people suffers from obesity, according to the World Health Organization (WHO). Some eating habits, such as eating more slowly, reduce food intake and prevent overeating. Previous studies showed that the body already starts producing hormones such as insulin before the food reaches the stomach. That helps digestion and creates a full feeling. Lasschuijt investigated whether sweetness and chewing for longer influenced that Pavlovian effect — with surprising results: 'We didn't find that Pavlovian response in our study.'

How do you explain that?
'We thought the hormone response would depend on the type of food. In our study, the test subjects ate a kind of strawberry gel. They weren't familiar with it and didn't like it either. We therefore chose something lots of people like for our follow-up study; chocolate dessert with pieces of caramel or caramel sauce. But even then, the body produced little or none of the hormones before the food reached the stomach.'

'We didn't find that Pavlovian response in our study'

That is contrary to previous studies. Which do you trust?
'Our research, of course. We know exactly how the data was collected. We have looked at the earlier studies in detail and there is a lot of variation in the results. The average Pavlovian response for the hormones is in fact very small. What is more, many of the earlier studies are more than 10 years old. We used the latest techniques in our research.'

So there is no such thing as a Pavlovian response in digestive and satiety hormones?
'Perhaps it only takes place when someone is really looking forward to a particular food. That is difficult to replicate in the lab with a dish of food and a computer screen in front of you, a spoon in one hand and a tube taking your blood in the other. You could only measure that in a real-life situation where test subjects have a sensor in their arms so that we can measure hormone levels continuously.' **NvtWH**

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