

Vegetarians are slimmer and less extroverted than meat eaters, study finds

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According to a survey by the Allensbach Institute, more than 6.1 million Germans stated last year that they were vegetarians, 400,000 more than two years earlier. A large-scale study at the Max Planck Institute for

Human Cognitive and Brain Sciences (MPI CBS) in cooperation with the University Hospital of Leipzig has now examined in almost 9,000 people how this form of nutrition is related to the body and the psyche—regardless of age, gender and level of education.

It was found that the rarer the proportion of animal food in a person's [diet](#), the lower their body mass index (BMI) on average and thus their body weight. One reason for this could be the lower proportion of heavily processed foods in the plant diet. "Products that are excessively rich in fat and sugar are particularly fattening. They stimulate the appetite and delay the feeling of satiety. If you avoid [animal foods](#), you consume fewer such products on average," explains Evelyn Medawar, first author of the underlying publication, which has now been published in the journal *Nutrients*. In addition: Vegetarian food contains dietary fibers and has a positive effect on the microbiome in the intestine. This is another reason why they could fill you up earlier than those made from animal ingredients. "People who eat predominantly vegetable foods may therefore absorb less energy," Medawar adds. In addition to a changed feeling of satiety, lifestyle factors such as more sport and greater health awareness could also play a decisive role.

For the BMI it also seems to make a difference which animal products a person feeds on. If it is predominantly so-called primary animal products, i.e. meat, sausage and fish, the person usually has a higher BMI than someone who eats primarily secondary animal products, i.e. eggs, milk, dairy products, cheese and butter. In the former case the correlation is statistically significant.

Medawar uses an example to illustrate what this could mean for nutrition: "A person with a 1.2 point lower BMI on average either completely avoids certain animal products, such as the primary ones, and is on a vegetarian diet. Or she continues to eat meat and fish, but less often. Whether nutrition is ultimately the cause of lower body weight or

whether other factors are responsible for it cannot be determined from the data. A follow-up study in cooperation with the University Hospital Leipzig will now shed light on this.

Nutrition and personality

The researchers also found out that vegetarian or vegan nutrition is also related to personality. Especially with one of the five major personality factors, extroversion. It was shown that people with predominantly plant-based foods on their diet are more introverted than those who mainly fed on animal products. "It is difficult to say what the reason for this is," says Veronica Witte. "It could be because more introverted people tend to have more restrictive eating habits or because they are more socially segregated because of their eating habits." Here, again, further studies should follow on how people identify with the characteristics of their diet.

However, they could not confirm that a plant-based diet is associated with a tendency towards neurotic behavior, as other studies suggested. "Earlier analyses had found that more neurotic people were generally more likely to avoid certain groups of foods and to behave more restrictively. We focused here solely on the avoidance of animal products and could not observe any correlation," explains study leader Veronica Witte.

In a third part, they finally concentrated on the question of whether a predominantly plant-based diet is more often associated with depressive moods. Here previous studies had also suggested a relationship between the two factors. "We could not detect this correlation," says Witte. "It is possible that in previous analyses other factors had blurred the results, including the BMI or conspicuous personality traits that are known to be associated with depression. We accounted for them," said Witte explaining a possible reason for the different results. In addition, the

plant-based diet is now more common and more accepted and not anymore restricted to a certain group.

The scientists had investigated these connections within the so-called LIFE project, a broad-based study in cooperation with the University Hospital of Leipzig. They determined the personal diets by means of questionnaires in which the participants were asked to fill in how often they had eaten the individual [animal products](#) in the last 12 months—from "several times a day" to "never." The personality traits such as extroversion and neuroticism were assessed by means of a so-called personality inventory (NEOFFI), while depression was assessed by means of the so-called CESD test, a questionnaire that records various symptoms of depression.

More information: Evelyn Medawar et al, Less Animal-Based Food, Better Weight Status: Associations of the Restriction of Animal-Based Product Intake with Body-Mass-Index, Depressive Symptoms and Personality in the General Population, *Nutrients* (2020). [DOI: 10.3390/nu12051492](#)

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