

Research shows 'profound' link between dietary choices and brain health

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A recent study [published](#) in *Nature Mental Health* shows that a healthy, balanced diet is linked to superior brain health, cognitive function and mental well-being. The study, involving researchers at the University of Warwick, sheds light on how our food preferences not only influence physical health but also significantly impact brain health.

The [dietary choices](#) of a large sample of 181,990 participants from the UK Biobank were analyzed against a range of physical evaluations, including cognitive function, blood metabolic biomarkers, brain imaging, and genetics—unveiling new insights into the relationship between nutrition and overall well-being.

The [food preferences](#) of each participant were collected via an online questionnaire, which the team categorized into 10 groups (such as alcohol, fruits and meats). A type of AI called [machine learning](#) helped the researchers analyze the large dataset.

A [balanced diet](#) was associated with better mental health, superior cognitive functions and even higher amounts of gray matter in the brain—linked to intelligence—compared with those with a less varied diet.

The study also highlighted the need for gradual dietary modifications, particularly for individuals accustomed to highly palatable but nutritionally deficient foods. By slowly reducing sugar and fat intake over time, individuals may find themselves naturally gravitating towards healthier food choices.

Genetic factors may also contribute to the association between diet and [brain health](#), the scientists believe, showing how a combination of genetic predispositions and lifestyle choices shape well-being.

Lead author Professor Jianfeng Feng, University of Warwick, emphasized the importance of establishing healthy food preferences early in life. He said, "Developing a healthy balanced diet from an early age is crucial for healthy growth. To foster the development of a healthy balanced diet, both families and schools should offer a diverse range of nutritious meals and cultivate an environment that supports their physical and mental health."

Addressing the broader implications of the research, Prof Feng emphasized the role of public policy in promoting accessible and affordable healthy eating options.

"Since dietary choices can be influenced by [socioeconomic status](#), it's crucial to ensure that this does not hinder individuals from adopting a healthy balanced dietary profile," he stated.

"Implementing affordable nutritious food policies is essential for governments to empower the general public to make informed and healthier dietary choices, thereby promoting overall public health."

Co-author Wei Cheng, Fudan University, added, "Our findings underscore the associations between dietary patterns and brain health, urging for concerted efforts in promoting nutritional awareness and fostering healthier eating habits across diverse populations."

Dr. Richard Pemberton, Certified Lifestyle Physician and GP, Hexagon Health, who was not involved in the study, commented, "This exciting research further demonstrates that a poor diet detrimentally impacts not only our [physical health](#) but also our mental and brain health. This study supports the need for urgent government action to optimize health in our children, protecting future generations. We also hope this provides further evidence to motivate us all to make better lifestyle choices, to improve our health and reduce the risk of developing chronic disease."

More information: Ruohan Zhang et al, Associations of dietary patterns with brain health from behavioral, neuroimaging, biochemical and genetic analyses, *Nature Mental Health* (2024). [DOI: 10.1038/s44220-024-00226-0](https://doi.org/10.1038/s44220-024-00226-0)

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