

# Frequent fried food consumption linked to anxiety and depression

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A team of food scientists at Zhejiang University, in China has found a possible link between frequent fried food consumption and increased levels of anxiety and depression in consumers. In their study, reported in

*Proceedings of the National Academy of Sciences*, the group describes analyzed patient data for 140,728 people.

The research team noted that prior research efforts established links between western dietary patterns and [mental health issues](#). Suspecting that at least some of the evidence could be traced back to frequent consumption of fried foods, the team compared rates of reported anxiety and [depression](#) with accounts of eating behaviors that include frequent consumption of fried foods.

They found that those who reported eating a lot of fried foods were more likely to be diagnosed with symptoms of anxiety and/or depression. More specifically, they found that symptoms increased by between 7% and 12% in people who reported eating such foods, and that the greatest risk seemed to be associated with eating fried potatoes in the form of french fries.

Exploring why eating such foods might increase the chances of mental health issues, the team isolated acrylamide, (an organic crystalline compound that is soluble in water), which they describe as a food-processing contaminant that appears when food is fried.

They tested the impact of acrylamide on zebrafish and found it reduced their eagerness to explore new territory and reduced their sociability, both signs of scototaxis and thigmotaxis, which are fish behaviors believed to be similar to anxiety and depression in humans. They also found that consumption of [acrylamide](#) downregulated expression of *tjp2a*, which has been found to play a role in the permeability of the blood-brain barrier.

The research team suggests that more work is required to definitively prove that frequent consumption of fried foods leads to mental health issues—they acknowledge that it was possible that people in the data

group they studied were consuming more fried foods because they were suffering from [anxiety](#) or depression.

**More information:** Anli Wang et al, High fried food consumption impacts anxiety and depression due to lipid metabolism disturbance and neuroinflammation, *Proceedings of the National Academy of Sciences* (2023). [DOI: 10.1073/pnas.2221097120](https://doi.org/10.1073/pnas.2221097120)

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