

Does gut bacteria ‘control’ your brain? Exploring connections between our microbiomes and mental health

Over the last few decades, researchers have started to uncover curious, compelling – and sometimes controversial – evidence to suggest that the gut microbiota doesn’t just help to keep our brains in prime working order by helping to free up nutrients for it from our food, but may also help to shape our very thoughts and behaviour. Their findings may even potentially bolster how we understand and lead to new treatments for a range of mental health conditions, from depression and anxiety to schizophrenia.

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“Specific gut microbes can modulate the immune system in ways that impact the brain and also produce molecules that [signal directly to neurons to regulate their activity](#),” [researcher Elaine Hsiao] says. “We find that gut microbes can regulate [the early development of neurons](#) in ways that lead to lasting impacts on brain circuits and behaviours. We also find that under shorter timescales, [gut microbes can regulate the production](#) of biochemicals, [like serotonin](#), that actively stimulate neuronal activity.”

Indeed, research suggests our microbes may be communicating with our brains through [numerous pathways](#), from immunity to biochemicals. Another candidate is the [vagus nerve](#), which acts as the superfast “internet connection” between our brain and internal organs, including the gut.

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