

## Boosting brain power -- with chocolate

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Eating chocolate could help to sharpen up the mind and give a short-term boost to cognitive skills, a University of Nottingham expert has found.

A study led by Professor Ian Macdonald found that consumption of a cocoa drink rich in flavanols — a key ingredient of dark chocolate — boosts blood flow to key areas of the brain for two to three hours.

Increased blood flow to these areas of the brain may help to increase performance in specific tasks and boost general alertness over a short period.

The findings, unveiled at one of the biggest scientific conferences in America, also raise the prospect of ingredients in chocolate being used to treat vascular impairment, including dementia and strokes, and thus for maintaining cardiovascular health.

The study also suggests that the cocoa flavanols found in chocolate could be useful in enhancing brain function for people fighting fatigue, sleep deprivation, and even the effects of ageing.

Ian Macdonald, professor of metabolic physiology at The University of Nottingham, used magnetic resonance imaging (MRI) to detect increased activity in specific areas of the brain in individuals who had consumed a single drink of flavanol-rich cocoa. The effect is linked to dilation of cerebral blood vessels, allowing more blood — and therefore more oxygen — to reach key areas of the brain.

Flavanols are not only found in chocolate with a high cocoa content — they are also present in other substances such as red wine, green tea and blueberries.

He presented his research at the annual meeting of the American Association for the Advancement of Science (AAAS), one of the biggest annual gatherings of scientists from all over the world.

Professor Macdonald said: "Acute consumption of this particular flavanol-rich cocoa beverage was associated with increased grey matter flow for two to three hours.

"The demonstration of an effect of consuming this particular beverage on cerebral blood flow raises the possibility that certain food ingredients may be beneficial in increasing brain blood flow and enhancing brain function, in situations where individuals are cognitively impaired such as fatigue, sleep deprivation, or possibly ageing."

He emphasised that the level of cocoa flavanol used in the study is not available commercially. The cocoa-rich flavanol beverage was specially formulated for the purpose of the study.

Source: University of Nottingham

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