Can Cocoa Boost Brain Health in Fit Adults?

The flavanol molecules found in cocoa may lead to faster brain recovery, among other things.

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New findings published in the journal Scientific Reports suggest that healthy adults who consume cocoa flavanols—molecules found in raw cocoa beans—are more likely to recover swiftly from mild vascular problems and perform well on difficult tests, reports the Illinois News Bureau.

Although flavanols are often destroyed in the production of chocolate, more of these molecules can be found in dark chocolate than milk chocolate, according to Harvard Health Publishing.

For the study, researchers at the University of Illinois and the University of Birmingham in England recruited 18 adult nonsmokers with no known history of brain, heart, vascular or respiratory disease. Participants were tested before consuming cocoa flavanols. Then, in one clinical trial, individuals consumed flavanol-rich cocoa. In another trial, they consumed processed cocoa with very low levels of flavanols.

To measure how participants' brains defended against excess carbon dioxide, nearly two hours after consuming the cocoa, scientists required individuals to breathe air with 5% carbon dioxide, nearly 100 times the normal concentration in air. Researchers then checked the level of each person's brain oxygenation and challenged individuals to complete complex tasks with contradictory or competing demands.

Results showed that prior exposure to cocoa flavanols prompted participants to exhibit a stronger and faster brain oxygenation response than at baseline or after people ingested cocoa without flavanols. The process of oxygenation brings in more oxygen and allows the brain to eliminate more carbon dioxide.

Findings also indicated that participants were more likely to perform better on the most challenging cognitive tests after consuming cocoa flavanols. For example, individuals correctly solved problems 11% faster than at baseline or after consuming cocoa with reduced flavanols.

However, scientists found no difference in performance on easier tasks, which suggested that flavanol might be beneficial only during the most challenging cognitive tasks, according to lead investigator Catarina Rendeiro, Msc, PhD, a researcher and lecturer in nutritional sciences at the

University of Birmingham, who led the investigative team.

Despite improvements in a majority of participants, Rendeiro reported that four of those who consumed the flavanols didn't show significant differences in their brain oxygenation response or perform better on their tests. She said this may be because these participants already had the highest oxygenation responses at study baseline, meaning those who are already fit won't see much improvement.

"Overall, the findings suggest that the improvements in vascular activity after exposure to flavanols are connected to the improvement in cognitive function," Rendeiro said.

For related coverage, read "A Taste of Chocolate."

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