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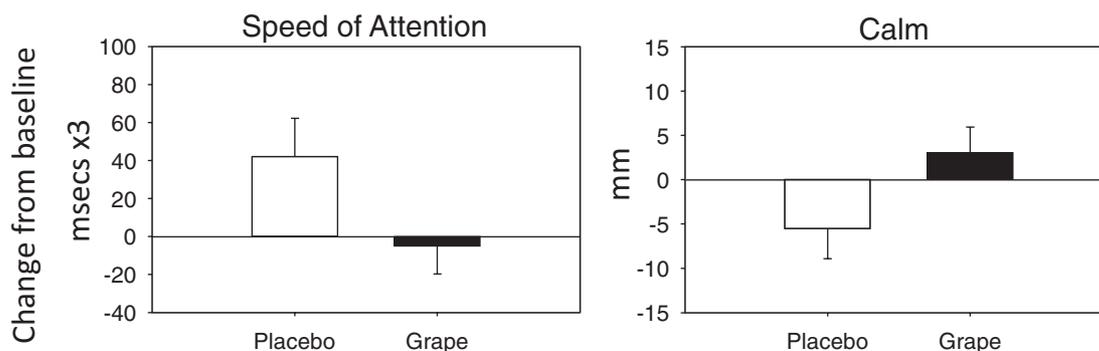
## Improved mood and sustained attention following acute consumption of Concord grape juice in young, healthy adults: a randomised, placebo-controlled, double-blind, cross-over study

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Berry-derived polyphenols found in purple grape juice have been associated with a number of health benefits in humans, including better episodic memory<sup>(1)</sup> and improved endothelial function<sup>(see 2 for review)</sup>. Previous intervention studies of Concord grape juice have demonstrated improvement to memory in age-associated mild cognitive impairment following at least 12 weeks supplementation, as well as increased brain activation (assessed with fMRI) following 16 weeks intervention. Anthocyanin-rich berry extracts have also been observed to improve sustained attention when measured acutely in healthy young adults<sup>(3)</sup> but no studies to date have demonstrated acute cognitive effects of grape juice.

This randomised, placebo-controlled, double-blind, balanced-cross-over study, assessed the effects of a single dose of 200 ml Concord purple grape juice or sugar and flavour-matched placebo in 20 healthy young adults. Computerised measures of cognition and mood were completed at baseline and following a 20-min absorption period, chosen due to a peak in native anthocyanins at ~30 minutes post-ingestion.



Following a single serve of Concord purple grape juice, a significant increase in calm ratings ( $p < 0.05$ ) and an improvement in speed of attention ( $p < 0.05$ ) were observed. There were no effects on memory. This supports a previous demonstration of improved sustained attention following berry fruit, possibly implicating this as an anthocyanin effect, which account for 46% of the polyphenolic content of the grape juice administered. However, the phenolic acids, flavanols and flavonols also present are liable to play a role in any neuro-cognitive effect. These findings in a small sample of healthy young adults suggest that further investigation of the efficacy of purple grape juice in preventing age-associated cognitive decline is warranted to ascertain peak dose effects as well as exploring the active compound(s) responsible for such effects.

1. Kesse-Guyot E, Fezeu L, Andreeva VA, Touvier M, Scalbert A, Hercberg S *et al.* (2012) Total and Specific Polyphenol Intakes in Midlife Are Associated with Cognitive Function Measured 13 Years Later. *Journal of Nutrition* **142**, 76–83.
2. Vislocky LM & Fernandez ML (2010) Biomedical effects of grape products. *Nutrition Reviews* **68**, 656–70.
3. Watson AWKD, Haskell CF, Scheepens A (2012) A double blind placebo controlled study measuring the effect of two berry fruit extracts on mood, cognition and monoamine oxidase B inhibition in healthy young adults. *Appetite* **59**, 636.