

Plant-based dietary patterns and their association with mood in healthy individuals

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Healthy, plant-based dietary patterns, particularly the Mediterranean diet (MD), have been associated with positive effect on mood symptoms and have been proposed to help prevent age-related cognitive decline^(1,2). However, to date no study has investigated which existing plant-based dietary pattern might be most likely to be associated with better mood in the general population. The aim of this study was to evaluate the relationship between different plant-rich dietary patterns and current mood in a large sample of healthy individuals across a broad age range.

We evaluated 333 healthy participants aged 8–79, who previously participated in dietary intervention studies. Current mood was assessed with the Positive and Negative Affect Schedule (PANAS) questionnaire, standardised by Z scores. Dietary patterns were estimated using food consumption data obtained from the European Prospective Investigation into Cancer (EPIC) Food Frequency Questionnaires (FFQ), and included the Plant-based Diet Index (PDI), Dietary Approaches to Stop Hypertension Diet (DASH), Mediterranean-DASH Diet Intervention for Neurodegenerative Delay (MIND), Original Mediterranean Diet (oMED) and Altered Mediterranean Diet (aMED).

PDI, DASH, oMED and aMED diet scores were all significantly associated with positive mood ($r_s = 0.12$ – 0.16), but not with negative mood. Linear regression models suggested that after adjusting for potential confounders (sex, and age), only the oMED and aMED diet scores were still significantly associated with positive mood ($B = 0.066$ (95% CI: 0.006–0.126) and 0.053 (95% CI: 0.001–0.106), respectively). Furthermore, the relationship between PDI diet scores and positive mood was only significant in children ($B = 0.118$ (95% CI: 0.044–0.193)), pointing to a potential moderating effect of age in the relationship between PDI and positive mood.

The oMED and aMED diets are associated with better mood in non-clinical adult samples of different ages, while the PDI diet might be more specifically associated with positive mood in children.

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References

1. Firth J, Marx W, Dash S *et al.* (2019) *Psychosom Med* **81**, 265–280.
2. Shafiei F, Salari-Moghaddam A, Larijani B *et al.* (2019) *Nutr Rev* **77**, 230–239.