

Ultra-processed Foods and cognitive performance: a mediating role of diet quality

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Megan Smith¹, Sarah Bauermeister¹, John Gallacher¹.

¹ The department of Psychiatry, University of Oxford

Consumption of Ultra-processed foods associated with worse cognitive performance many years later, and this relationship is mediated by the quality of the diet.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
Ultra-Processed Foods (UPFs) are formulations of mainly industrial substances with little or no whole ingredients ¹ . Consumption of UPFs has been associated with multiple negative health outcomes ² . Meanwhile, there is limited understanding of whether UPF intake is associated with cognitive performance in older age ³ . Moreover, whether the relationship between UPFs and negative health outcomes is mediated via diet quality is debated.	This is an observational analysis of 1,638 participants (EPIC-Norfolk cohort). UPFs were identified using the NOVA classification, and intake was calculated as the percentage of total dietary weight (g/day). Diet quality was evaluated using the MIND diet index. Structural equation modelling (SEM) was applied to examine the association between UPF consumption and later-life cognitive function. Mediation analysis was performed to determine whether diet quality mediated this relationship, with effects tested using Sobel estimators.	All SEM models had good model fit. Higher consumption of UPFs had a direct negative association on cognitive performance 12 years later, but there was no significant effect on cognitive performance 23 years later. The association between UPFs and cognitive performance 12 years later was completely mediated by the quality of the diet. Specifically, the 42% of the effect of UPF intake on cognition was mediated by the quality of the diet.	These results suggest UPF consumption may be associated with poorer cognitive performance many years later, and this effect may occur via reduced quality of the diet.	1. Monteiro, C. A., Cannon, G., Levy, R. B., Moubarac, J. C., Louzada, M. L., Rauber, F., Khandpur, N., Cediel, G., Neri, D., Martinez-Steele, E., Baraldi, L. G., & Jaime, P. C. (2019). Ultra-processed foods: what they are and how to identify them. <i>Public health nutrition</i>, 22(5), 936–941. https://doi.org/10.1017/S1368980018003762 2. Lane, M. M., Gamage, E., Du, S., Ashtree, D. N., McGuinness, A. J., Gauci, S., ... & Marx, W. (2024). Ultra-processed food exposure and adverse health outcomes: umbrella review of epidemiological meta-analyses. <i>bmj</i>, 384. 3. Smith M, Watson P, Gallacher J, et al. Ultraprocessed food exposure and cognitive outcomes: a systematic review of observational studies. <i>BMJ Nutrition, Prevention & Health</i> 2026;0. doi:10.1136/ bmjnph-2025-001325
				CONTACT Contact Megan Smith Megan.smith2@psych.ox.ac.uk  ALZHEIMER'S ASSOCIATION AAIC 