

BACKGROUND

Lower income is associated with poor cognitive function.

Dietary patterns and gut microbiota-related metabolites may mediate this association.

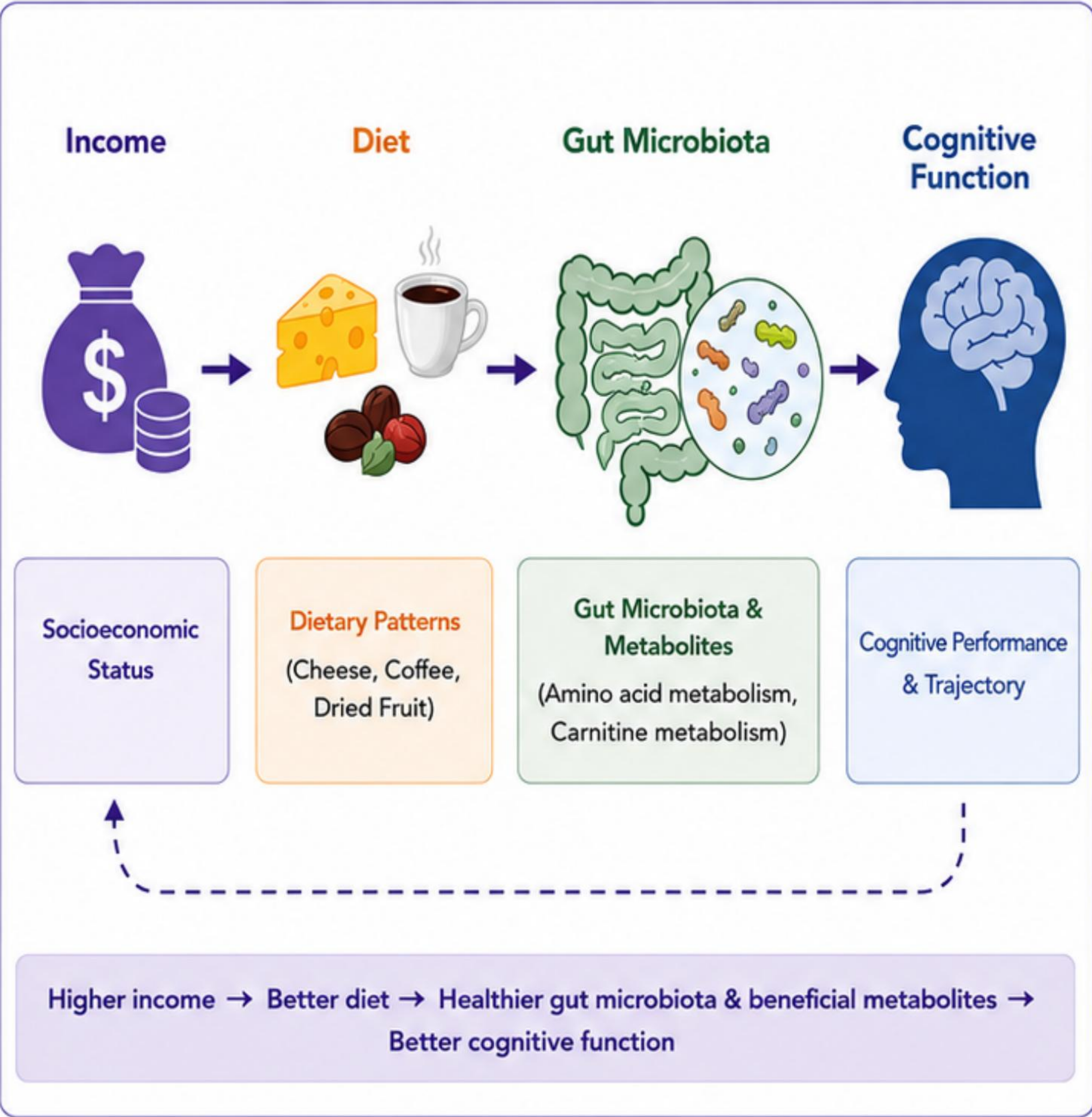


METHODS

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Observational Analysis
Multistate Markov model to evaluate cognitive trajectory
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Mendelian Randomization
Two-sample, two-step MR to infer causality and mediation



KEY RESULTS

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Cheese and coffee intake mediate the positive effect of income on cognitive function.
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Cheese may improve cognition via amino acid metabolism (tryptophan/tyrosine) and carnitine metabolism (carnitine/ergothioneine).

CONCLUSION



Our findings support a pathway from income to cognitive function through diet and gut microbiota-related metabolism, highlighting dietary interventions as a potential strategy to reduce socioeconomic inequalities in cognitive aging.

TAKE-HOME MESSAGE



Diet matters in linking socioeconomic status to brain health.